

TYPICAL PIPE SIZES (INCHES)				
	DCW	DHW	SANITARY	VENT
WATER CLOSET (TANK)	1/2"	-	3"	1-1/2"
LAVATORY	1/2"	1/2"	1-1/4"	1-1/4"
SHOWER/BATHTUB	1/2"	1/2"	1-1/2"	1-1/4"
SINK	1/2"	1/2"	1-1/2"	1-1/4"
CLOTHES WASHER	1/2"	1/2"	1-1/2"	1-1/4"
DISHWASHER (DOMESTIC)	-	1/2"	1-1/2"	-
HOSEBIBB & WALL HYDRANT	1/2"	-	-	-
2" FD	-	-	2"	-
3" FD	-	-	3"	-

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PLUMBING LEGEND	
— — — — —	DOMESTIC COLD WATER (DCW)
— — — — —	DOMESTIC HOT WATER (DHW)
— — — — —	UNBURIED SANITARY DRAINAGE (US)
— — — — —	BURIED SANITARY DRAINAGE (S)
— — — — —	UNBURIED STORM DRAINAGE (UST)
— — — — —	BURIED STORM DRAINAGE (ST)
— — — — —	PIPE UP, BRANCH DROPPING FROM TEE, PIPE DOWN
— — — — —	PIPE BREAK/CONTINUATION
⊗	FLOOR (F), ROOF (R), HUB (H), FUNNEL (FF), AREA (A) DRAIN
⊗	BALL VALVE
⊗	CHECK VALVE
⊗	GLOBE VALVE
⊗	PRESSURE REDUCING VALVE (PRV)
⊗	REDUCER
⊗	STRAINER
⊗	UNION
⊗	PRESSURE GAUGE WITH PETCOCK
— — — — —	CLEAN OUT — EXPOSED
— — — — —	CLEAN OUT — IN FLOOR
⊗	SANITARY TRAP
⊗	EQUIPMENT/FIXTURE TAG

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496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL PLUMBING BASEMENT LAYOUT

D.G. Biddle & Associates Limited
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SCALE: 3/16" = 1'	PROJECT NO. 115147
DRAWN BY: B.C.A.	DRAWING NO. M1.1
DESIGN BY: B.C.A./G.V.W.O.	CAD FILE: 115147 M
CHECKED BY: G.V.W.O.	PLOT DATE: 12/20/16
DATE: DECEMBER 2016	SUBMISSION: PERMIT

DOMESTIC WATER FLOW CALCULATION BASED ON O.B.C. TABLE 7.6.3.2.A.			
SUITES (PRIVATE USE)			
FIXTURE	QUANTITY	WSFU	TOTAL
WASHING MACHINE	18	1.4	25.2
DISH WASHER	18	1.4	25.2
LAVATORY	27	1	27
BATH TUB/SHOWER	24	1.4	33.6
KITCHEN SINK	18	2	36
WATER CLOSET (TANK)	24	3	72
TOTAL		219	WSFU
		69	GPM

MINIMUM PIPE INSULATION THICKNESS - HEATING AND HOT WATER SYSTEMS BASED ON ASHRAE 90.1 TABLE 6.8.3A							
FLUID OPERATING TEMPERATURE RANGE (°F) AND USAGE	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in)				
	CONDUCTIVITY Btu*in./(h*F)	MEAN RATING TEMPERATURE, °F	<1	1 TO <1-1/2	1-1/2 TO <4	4 TO <8	≥8
105°F-140°F	0.22-0.28	100	1.0	1.0	1.5	1.5	1.5

NOTE: REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

NOTE: PROVIDE CLEAN OUT AT THE BOTTOM OF EACH SANITARY/STORM STACK PRIOR TO UNDERGROUND

NOTE: COORDINATE ACCESS DOORS/PANELS FOR ISOLATION VALVES AND CLEANOUTS WITH GENERAL CONTRACTOR

NOTE: COORDINATE ALL HOLES THROUGH SLAB AND MASONRY WALLS WITH GENERAL CONTRACTOR PRIOR TO COMMENCEMENT OF WORK.

NOTE: COORDINATE SHARED SPACES WITH GAS PIPING, HVAC-DUCTWORK AND SPRINKLER PIPING.

NOTE: ALL INVERTS SHALL BE COORDINATED WITH OUTSIDE SERVICE CONTRACTORS PRIOR TO INSTALLATION. RECORD ACTUAL INVERTS ON AS-BUILT DRAWINGS. INVERTS SHOWN TO BE MINIMUM ALLOWANCE FOR CONNECTION TO MAIN SANITARY LINE.

GENERAL PLUMBING NOTES:

1. PROVIDE CLEANOUTS AS REQUIRED BY CODE. SIZE OF CLEANOUTS TO BE SAME SIZE AS SANITARY LINES.
2. PROVIDE VENTS THROUGH ROOF AS REQUIRED BY CODE.
3. PROVIDE ISOLATION VALVES AT ALL HOT WATER TANKS AND ALL FIXTURES.
4. INSULATE ALL NEW DOMESTIC HOT AND COLD WATER PIPING AND SEAL ALL JOINTS IN OUTSIDE WALLS.
5. ALL NEW HOSE BIBBS TO BE COMPLETE WITH BACKFLOW PREVENTERS.
6. PROVIDE FLOOR DRAINS IN ALL SUITE UTILITY ROOMS.

NOTE: ALL PIPING INCLUDING PEX PIPING BOTH EXPOSED AND CONCEALED IS TO BE INSULATED. NO EXCEPTIONS.

NOTE: PIPING SHOWN FOR SCHEMATIC AND SCOPE OF WORK PURPOSES IN GENERAL LOCATION OF USE. COORDINATE EXACT ROUTING ON SITE AND WITH BEST PRACTICES.

NOTE: CONTRACTOR TO SUPPLY VENTING DRAWING TO ENGINEER FOR APPROVAL BASED ON PROPOSED VENT LENGTHS AND BEST ROUTING BASED ON SITE CONDITIONS AND COORDINATION WITH OTHER TRADES. FINAL VENTING LAYOUT AND ROUTING TO BE RESPONSIBILITY OF CONTRACTOR.

NOTE: ALL DETAILS SHOWN ARE SCHEMATIC BY NATURE AND ARE TO BE USED FOR SCOPE OF WORK PURPOSES ONLY. COORDINATE WITH ALL TRADES AND MANUFACTURERS BEST PRACTICES AND DIRECTIONS.

NOTE: CONTRACTOR TO ENSURE ADEQUATE SLOPE IS AVAILABLE. FOR NEW SANITARY AND STORM SYSTEMS. COORDINATE EXACT TIE IN LOCATIONS ON SITE.

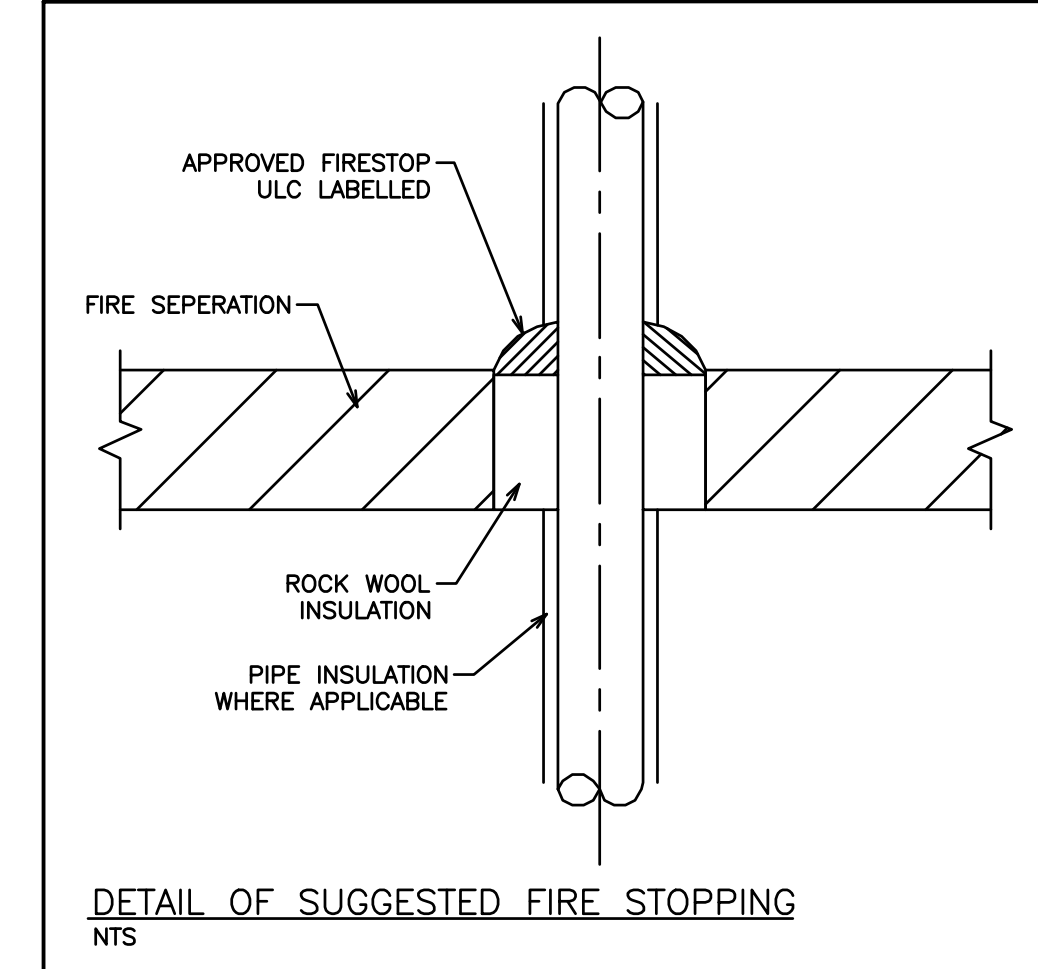
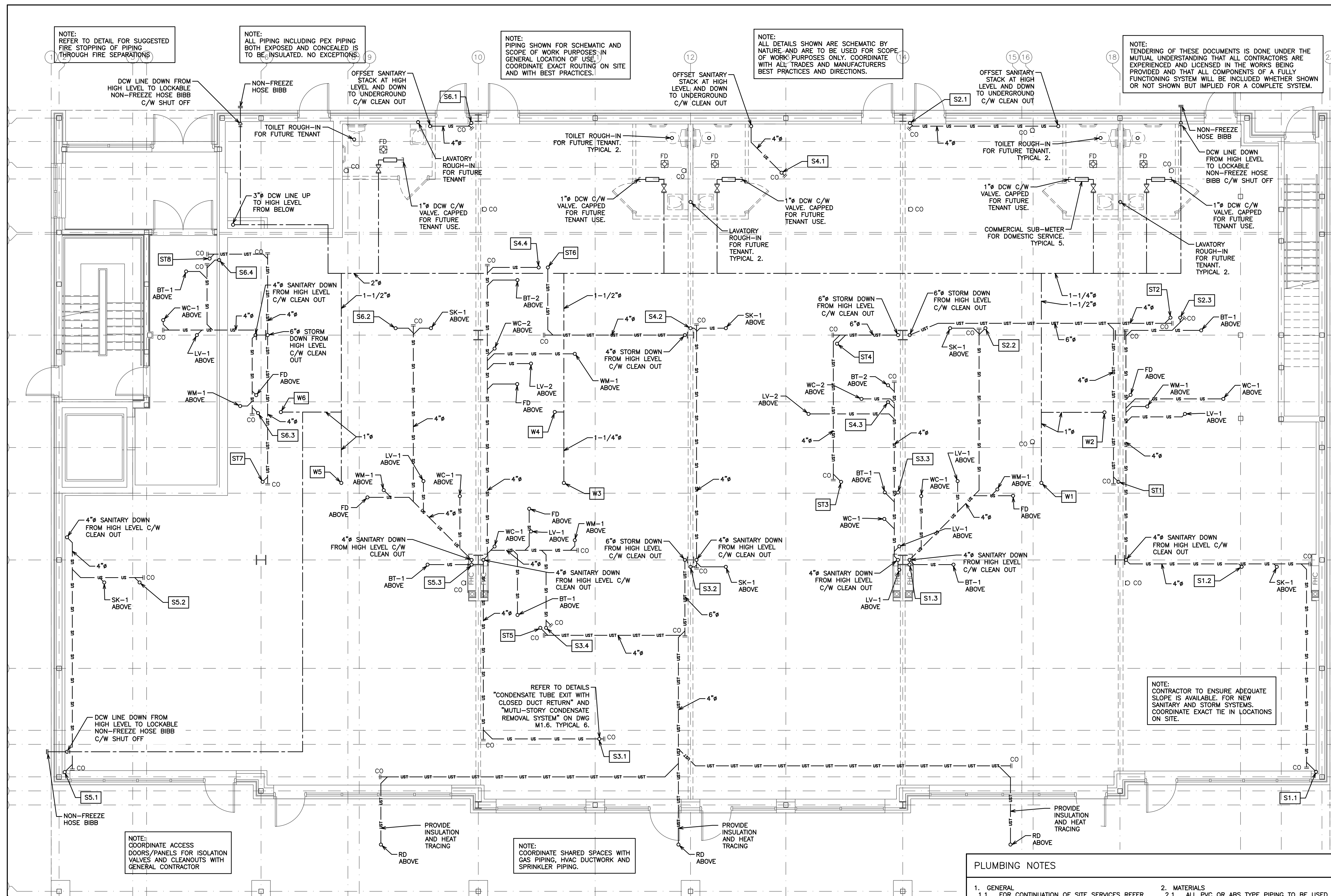
NOTE: PROVIDE ACCESS PANELS FOR ALL GROUND FLOOR SANITARY AND STORM CLEAN OUTS WHERE SHOWN AND WHERE REQUIRED.

NOTE: DRAIN INVERTS INDICATED ARE THE LOWEST ACCEPTABLE INVERTS AT THESE LOCATIONS

NOTE: ALL HORIZONTAL SANITARY TO RUN MINIMUM 1% SLOPE. ANY HORIZONTAL SANITARY >4" TO BE RUN AT 2% SLOPE.

NOTE: ALL ACCESS PANELS ARE TO BE LOCKABLE TYPE

NOTE: RUN ALL DOMESTIC AND SANITARY PIPING TIGHT TO UNDERSIDE OF SLAB



PLUMBING LEGEND

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PROFESSIONAL ENGINEER
G.V.W. OSBORNE
100136545
Dec 20/16
PROVINCE OF ONTARIO

SCALE:	3/16" = 1'	PROJECT NO:	115147
DRAWN BY:	B.C.A	DRAWING NO.:	M1.2
DESIGN BY:	B.C.A/G.V.W.O.	CAD FILE:	115147 M
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NOTE: REFER TO DETAIL FOR SUGGESTED FIRE STOPPING THROUGH FIRE SEPARATIONS

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NOTE: ALL ACCESS PANELS ARE TO BE LOCKABLE TYPE

HOT WATER TANK SCHEDULE

TAG	MANUFACTURER	MODEL	CAPACITY
HWT-1	BRADFORD WHITE	RE350S6	50 GAL

PLUMBING NOTES

- GENERAL
 - FOR CONTINUATION OF SITE SERVICES REFER TO SITE SERVICE DRAWING BY OTHERS.
 - PROVIDE CLEANOUTS AND TRAP PRIMING FOR SANITARY AS REQUIRED BY O.B.C. AND LOCAL AUTHORITIES. CLEANOUT SIZE TO BE SAME AS SANITARY LINES.
 - PROVIDE COMPLETE PLUMBING VENT SYSTEM AS REQUIRED BY O.B.C. AND LOCAL AUTHORITIES, INCLUDING MIN. 3" VENT AT UPSTREAM END(S) OF SANITARY BUILDING DRAIN.
 - ISOLATION VALVES TO BE PROVIDED AT ALL FIXTURES AND HOT WATER TANK.
 - PIPE INSULATION TO BE 1" FOR ALL NEW AND/OR EFFECTED DOMESTIC PIPING. IN EXPOSED AREAS PROVIDE CANVAS WRAP OVER INSULATION.
- MATERIALS
 - ALL PVC OR ABS TYPE PIPING TO BE USED ABOVE GROUND SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS AND SHALL BE CONFIRMED TO BE ACCEPTABLE BY THE AUTHORITY HAVING JURISDICTION. IF ACCEPTABLE AND USED, IT SHALL BE PROVIDED WITH U.L.C. LISTED AND APPROVED FIRE STOP DEVICE AT ALL PENETRATIONS OF ANY FIRE SEPARATION.
 - ALL ABOVE GROUND DOMESTIC PIPING SHALL BE TYPE 'L' COPPER OR PEX.
 - ALL BURIED DOMESTIC PIPING SHALL BE TYPE 'K' COPPER.
 - ALL ABOVE GROUND DRAINAGE PIPING SHALL BE CAST IRON 'M' PIPE.
 - ALL BURIED DRAINAGE PIPING SHALL BE DR26 PVC WITH CLASS P BEDDING.

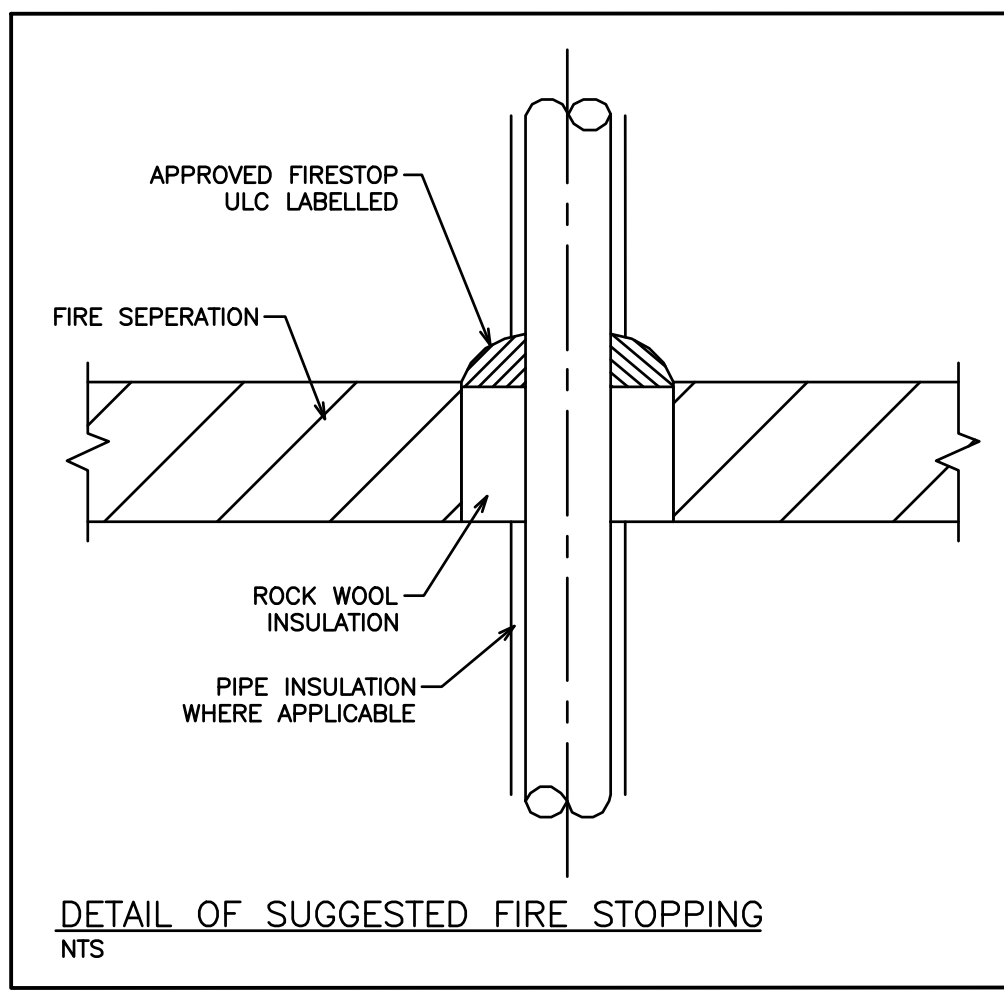
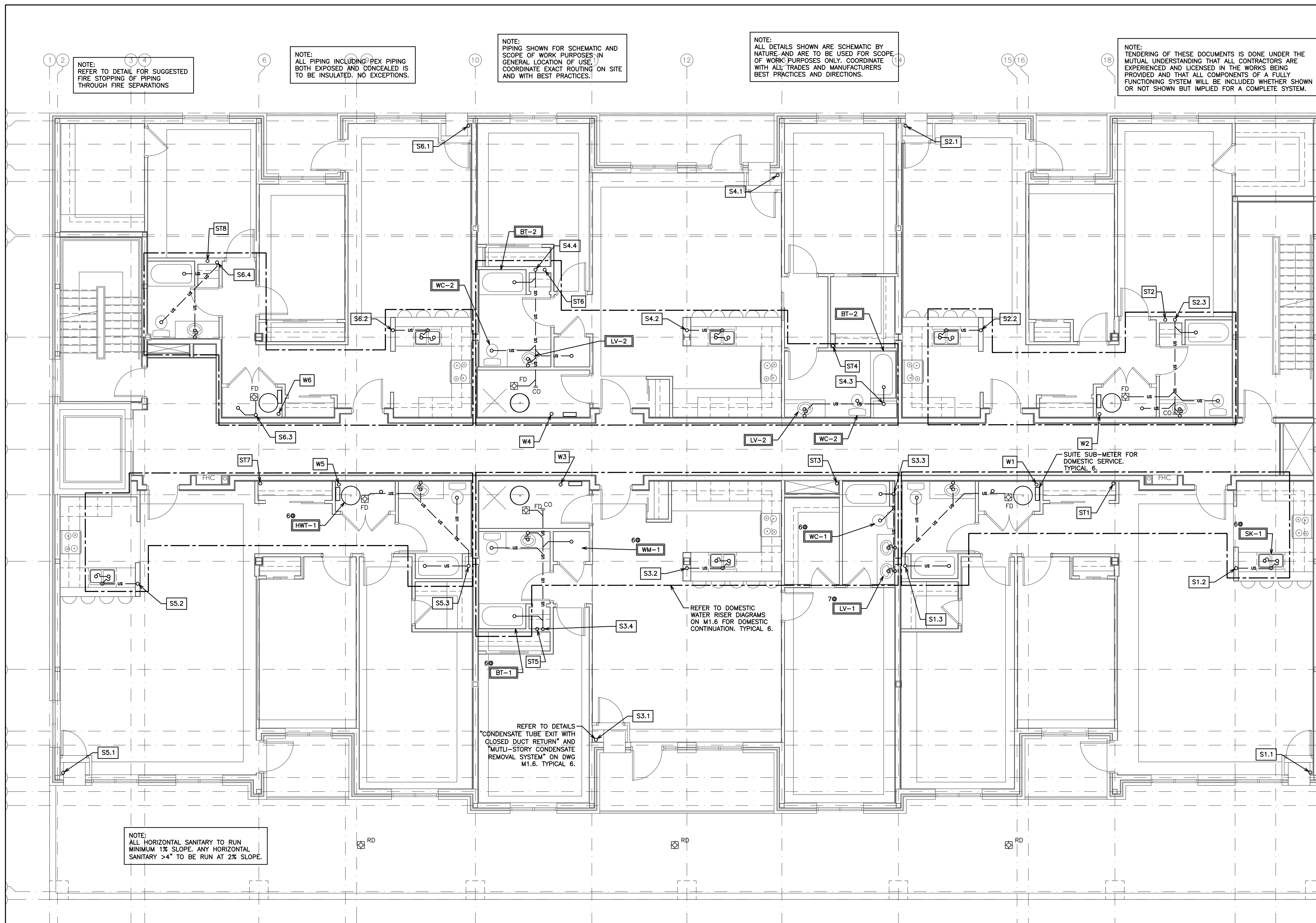
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REFER TO DETAILS "CONDENSATE TUBE EXIT WITH CLOSED DUCT RETURN" AND "MULTI-STORY CONDENSATE REMOVAL SYSTEM" ON DWG M1.6. TYPICAL 6.

NOTE: COORDINATE ACCESS DOORS/PANELS FOR ISOLATION VALVES AND CLEANOUTS WITH GENERAL CONTRACTOR

PROVIDE INSULATION AND HEAT TRACING

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PLUMBING LEGEND

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---	DOMESTIC HOT WATER (DHW)
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**MECHANICAL PLUMBING
SECOND FLOOR LAYOUT**

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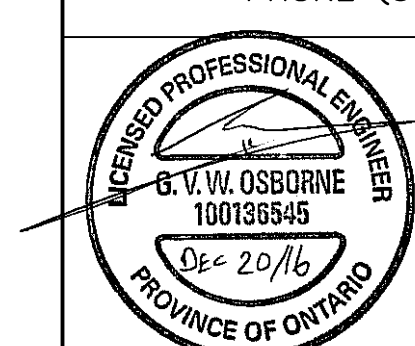
PROJECT NO. 115147

DRAWN BY: B.C.A. DRAWING NO. M1.3

DESIGN BY: B.C.A./G.V.W.O.

CHECKED BY: G.V.W.O. CAD FILE: 115147 M

DATE: DECEMBER 2016 PLOT DATE: 12/20/16 SUBMISSION: PERMIT



NOTE:
REFER TO DETAIL FOR SUGGESTED
FIRE STOPPING OF PIPING
THROUGH FIRE SEPARATIONS

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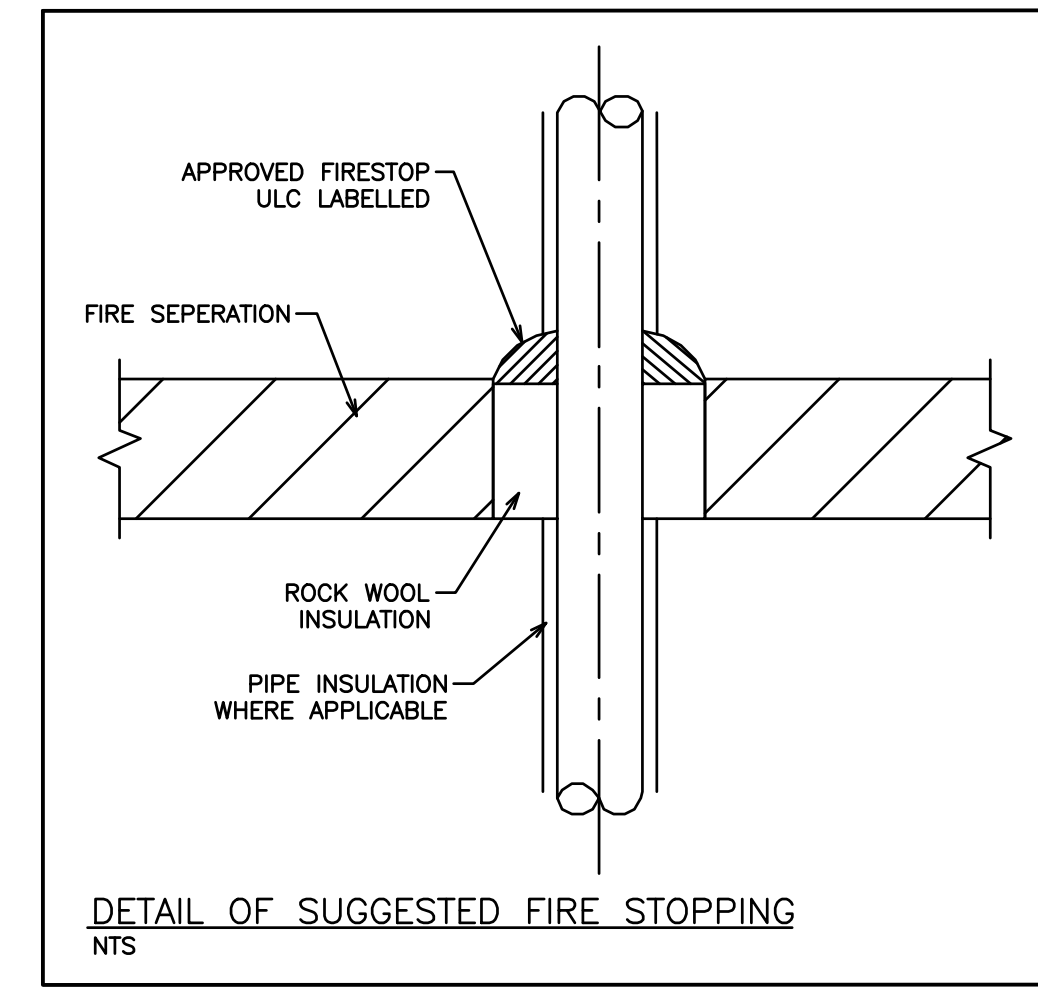
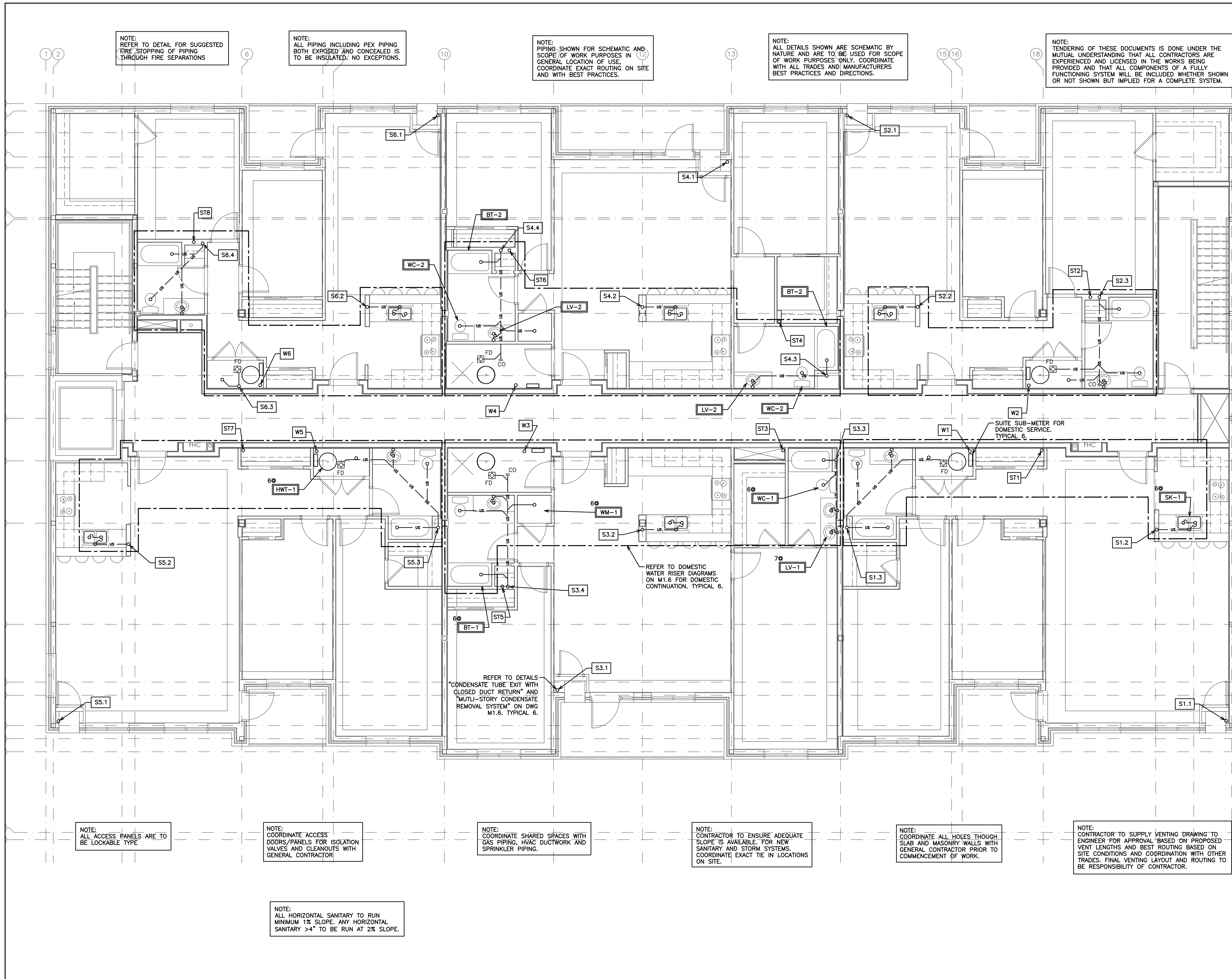
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REFER TO DOMESTIC
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CONTINUATION. TYPICAL 6.

REFER TO DETAILS
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SUITE SUB-METER FOR
DOMESTIC SERVICE.
TYPICAL 6.



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REVISIONS

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THIRD FLOOR LAYOUT

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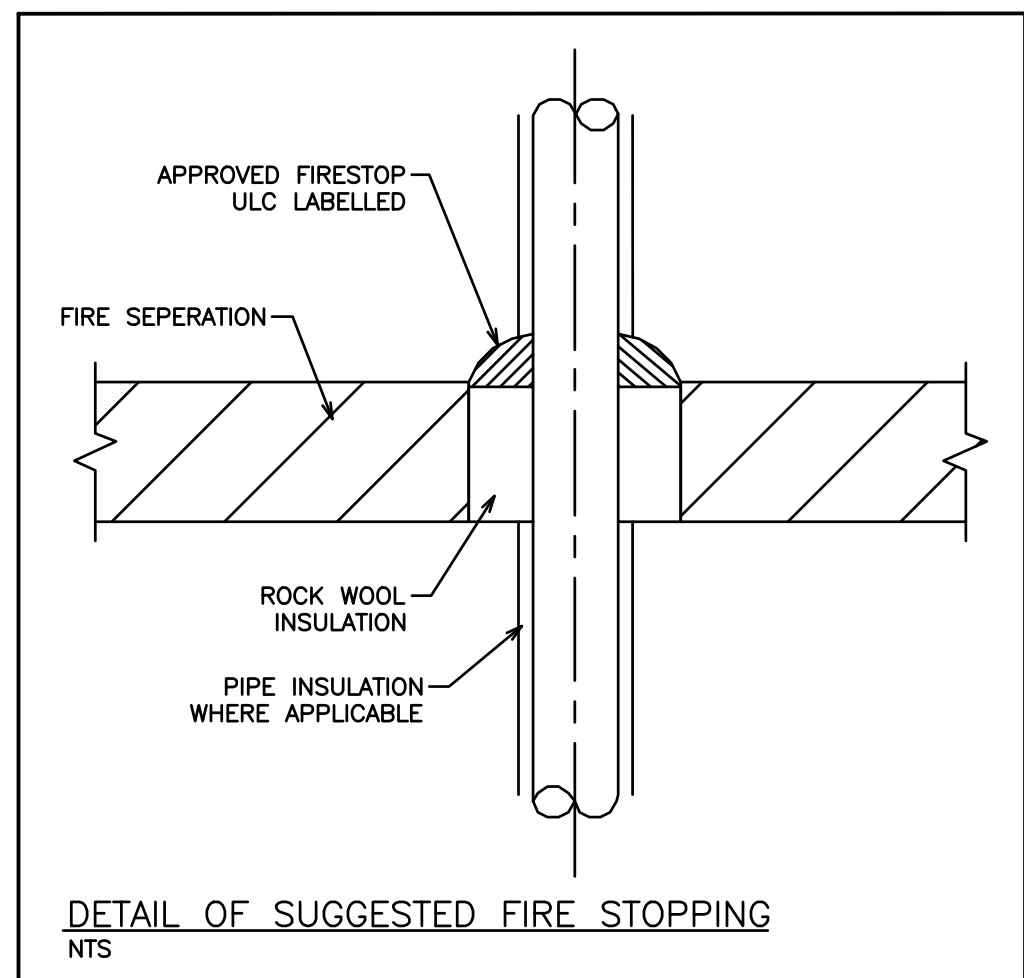
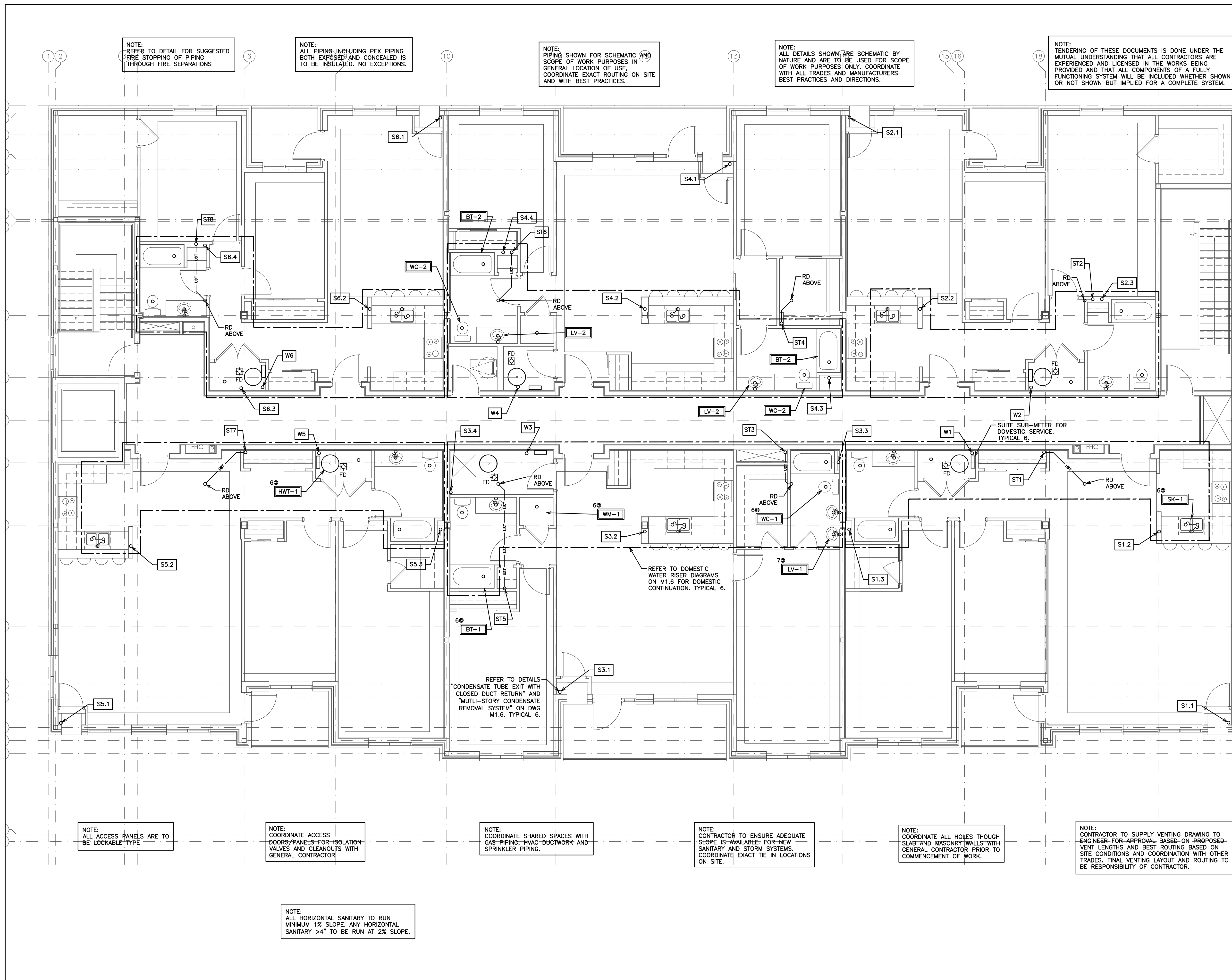
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PROFESSIONAL ENGINEER
G.V.W. OSBORNE
100136545
Dec 20/16
PROVINCE OF ONTARIO



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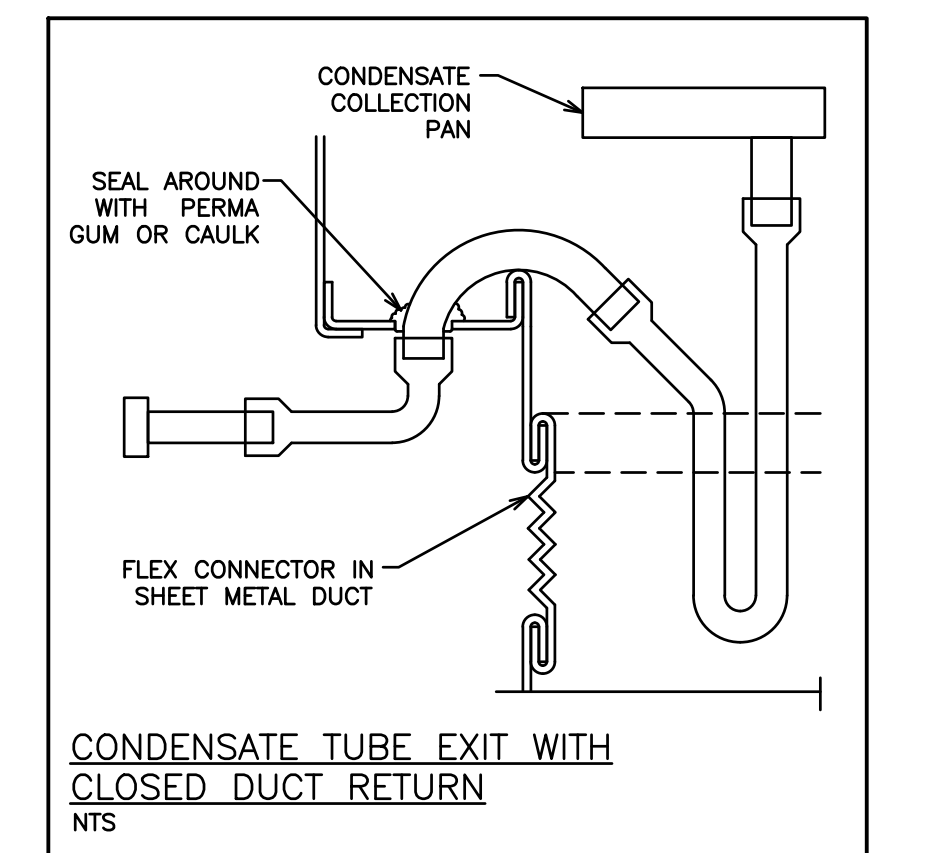
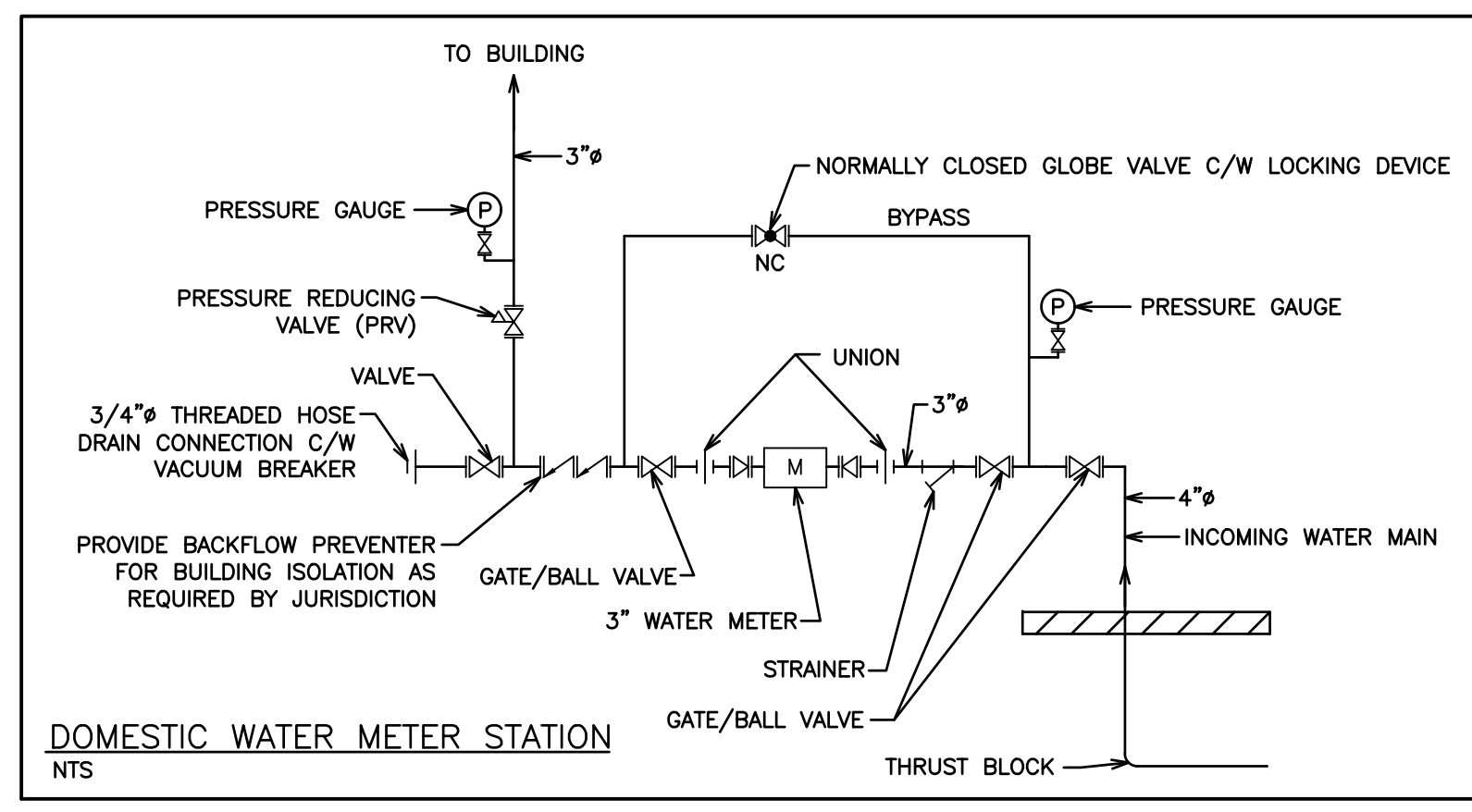
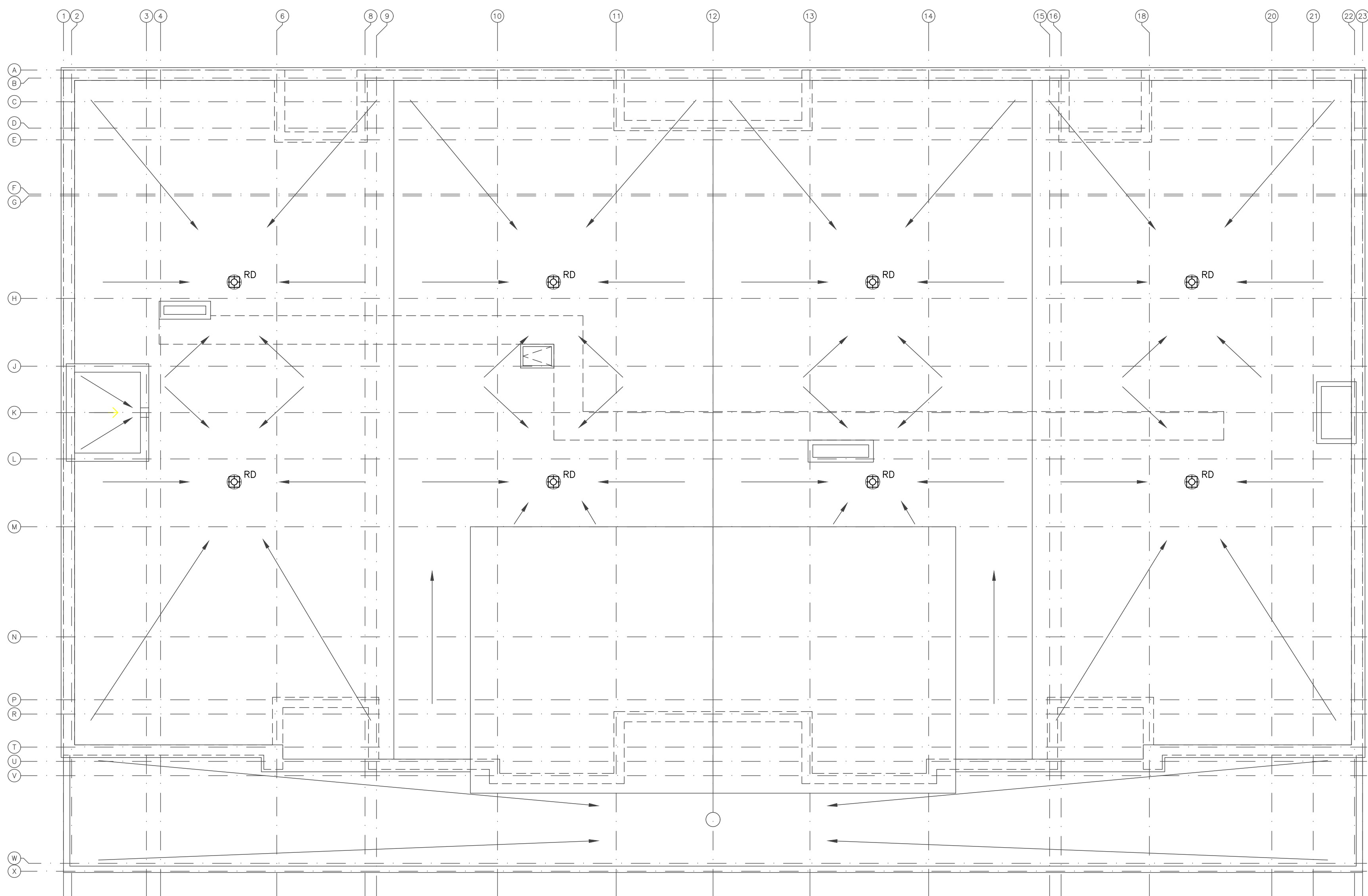
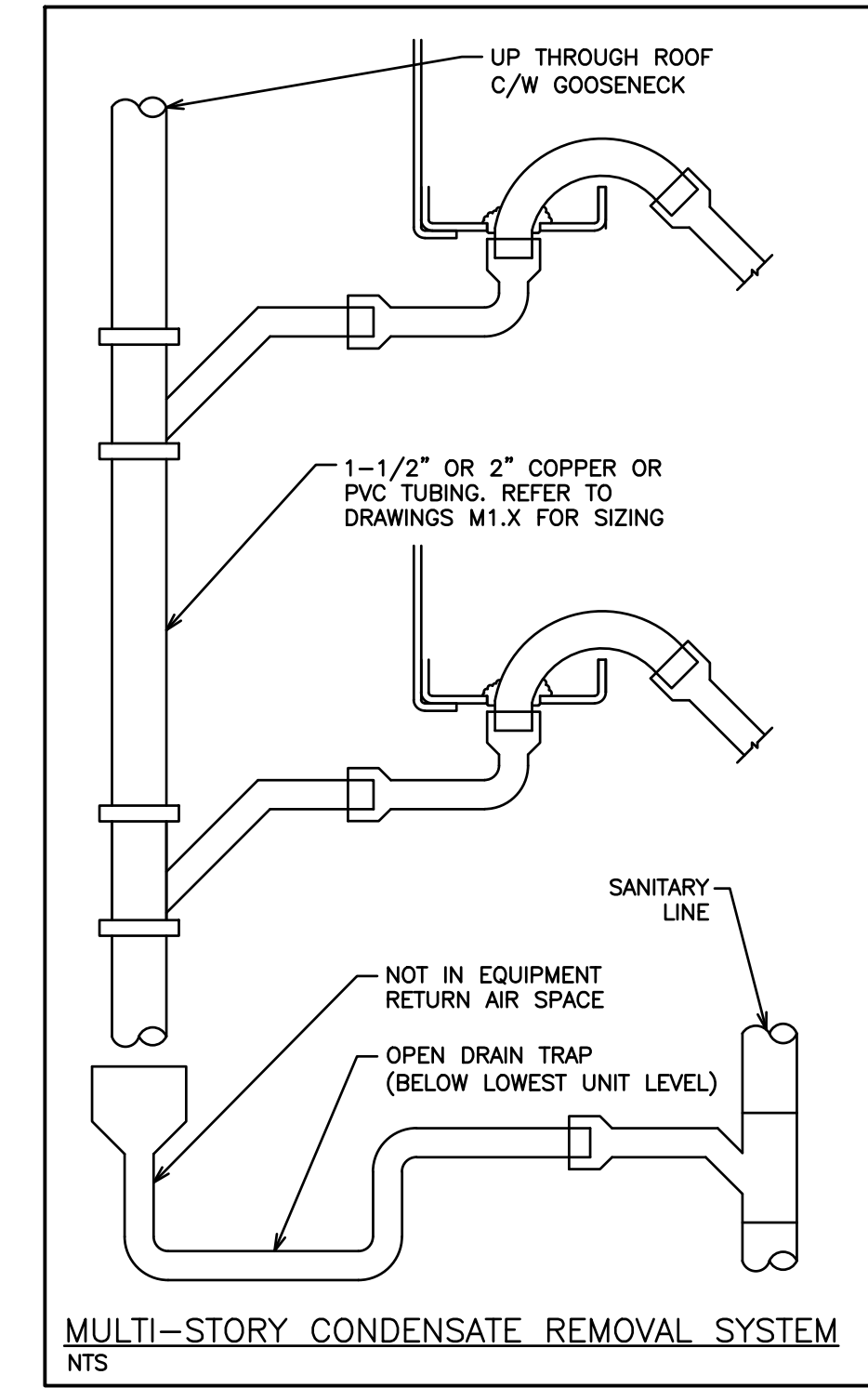
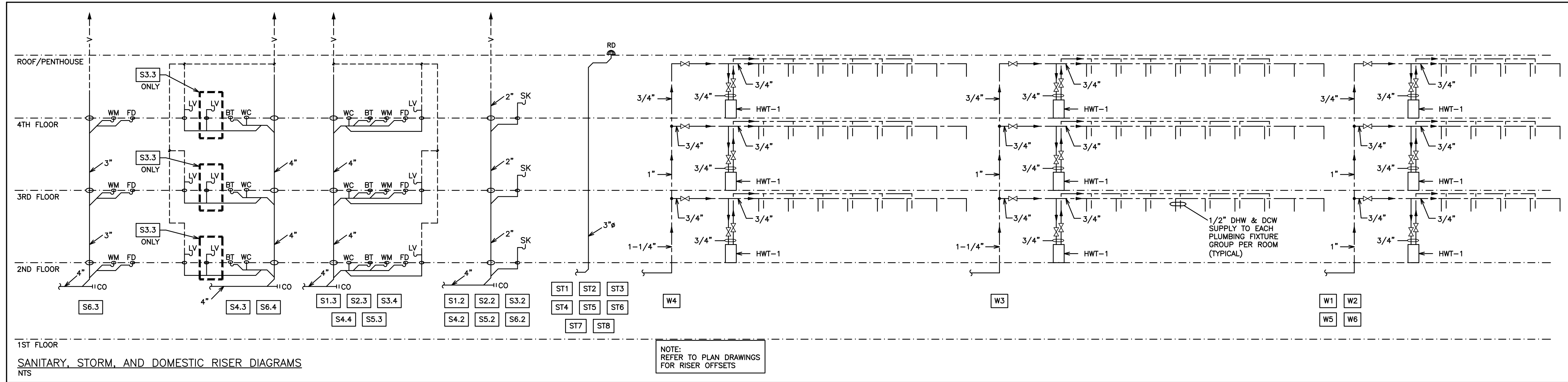
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DATE: DECEMBER 2016

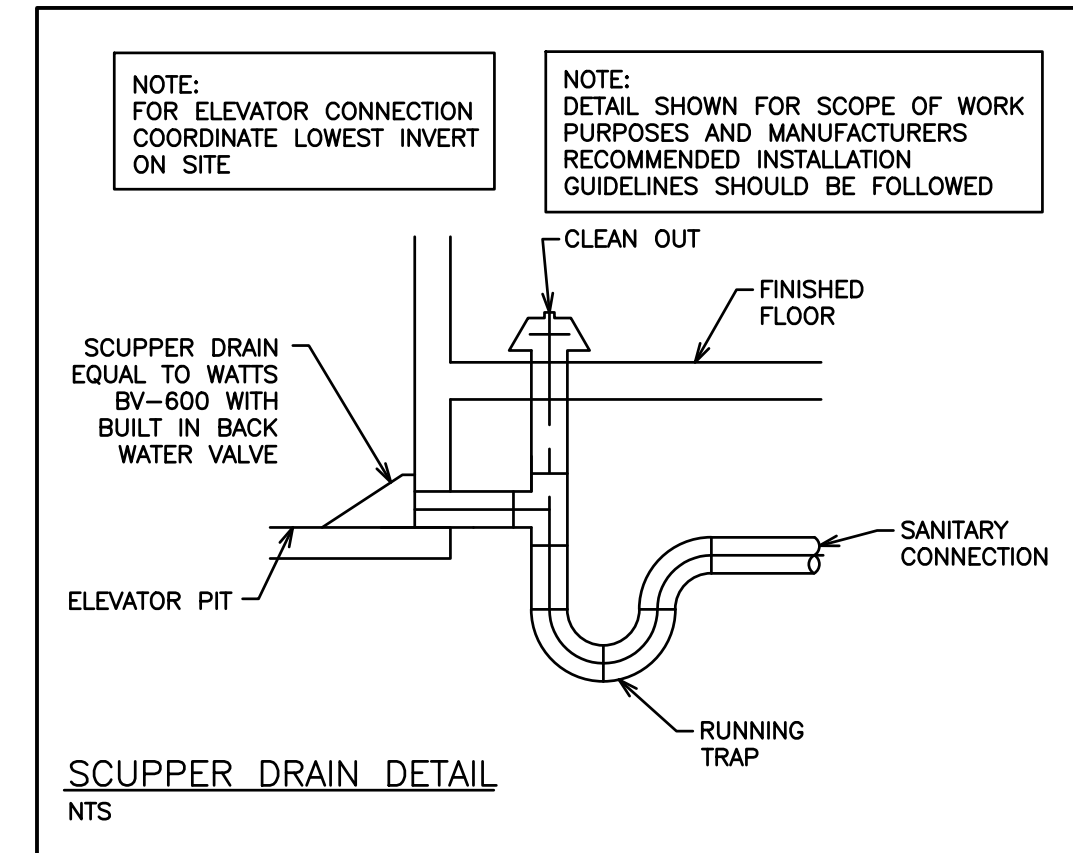
DRAWING NO. M1.5

CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT

G.V.W. OSBORNE
100136545
Dec 20/16
PROVINCE OF ONTARIO



NOTE: TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.



NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
4	ISSUED FOR PRICING	DEC 13	G.O.	G.V.W.O.
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28	G.O.	G.V.W.O.
2	ISSUED FOR COORDINATION	SEP 29	G.O.	G.V.W.O.
1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

REVISIONS

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL PLUMBING
ROOF & NOTES

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INFO@DGBIDDLE.COM

SCALE: 1/8" = 1'

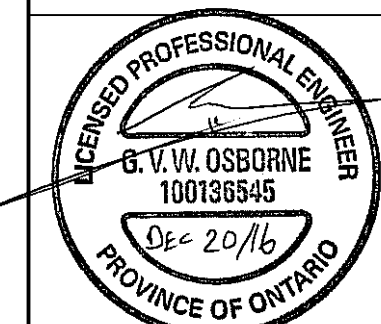
PROJECT NO. 115147

DRAWN BY: B.C.A. DRAWING NO. M1.6

DESIGN BY: B.C.A./G.V.W.O.

CHECKED BY: G.V.W.O. CAD FILE: 115147 M
PLOT DATE: 12/20/16 SUBMISSION: PERMIT

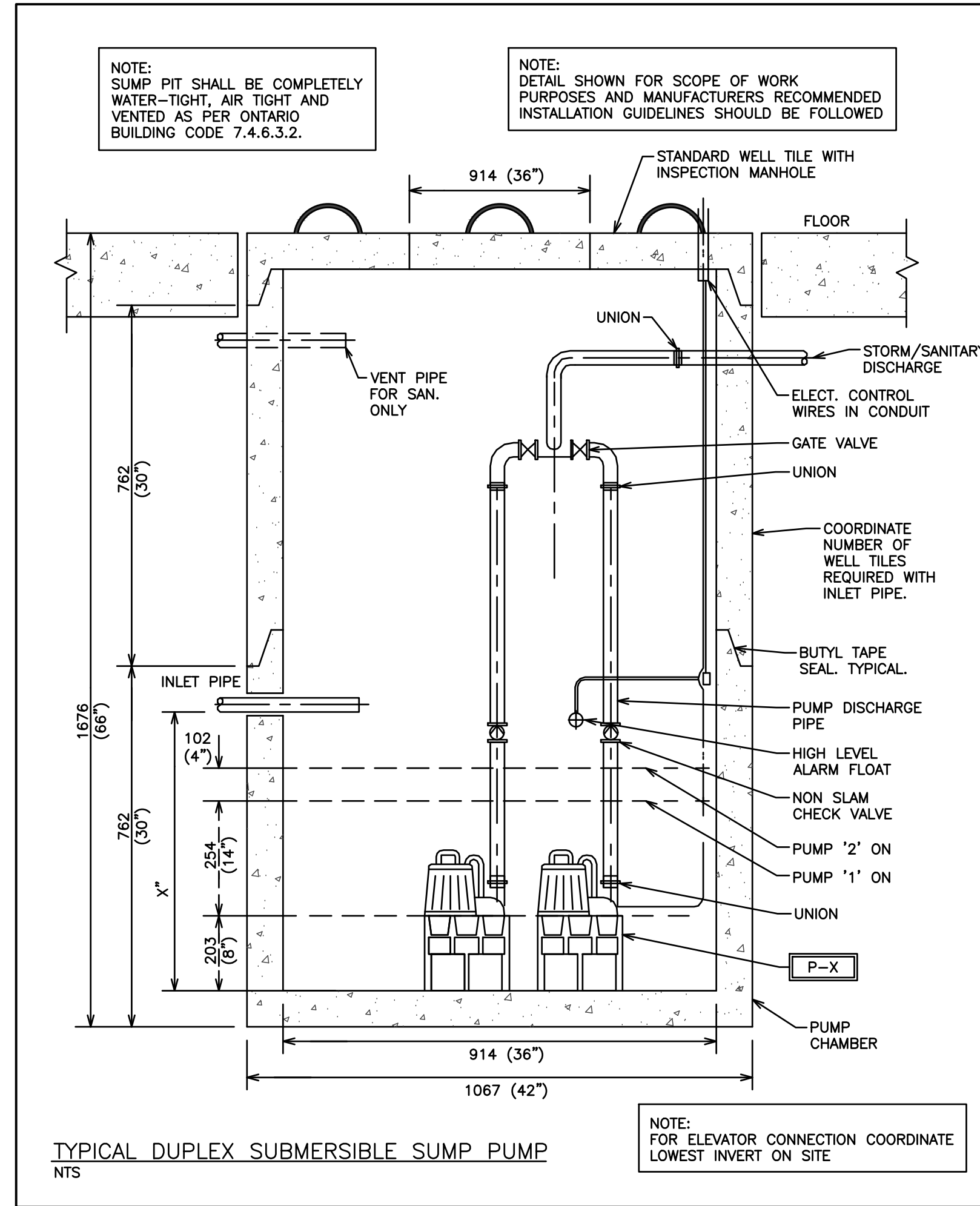
DATE: DECEMBER 2016



GENERAL REQUIREMENTS FOR MECHANICAL WORK

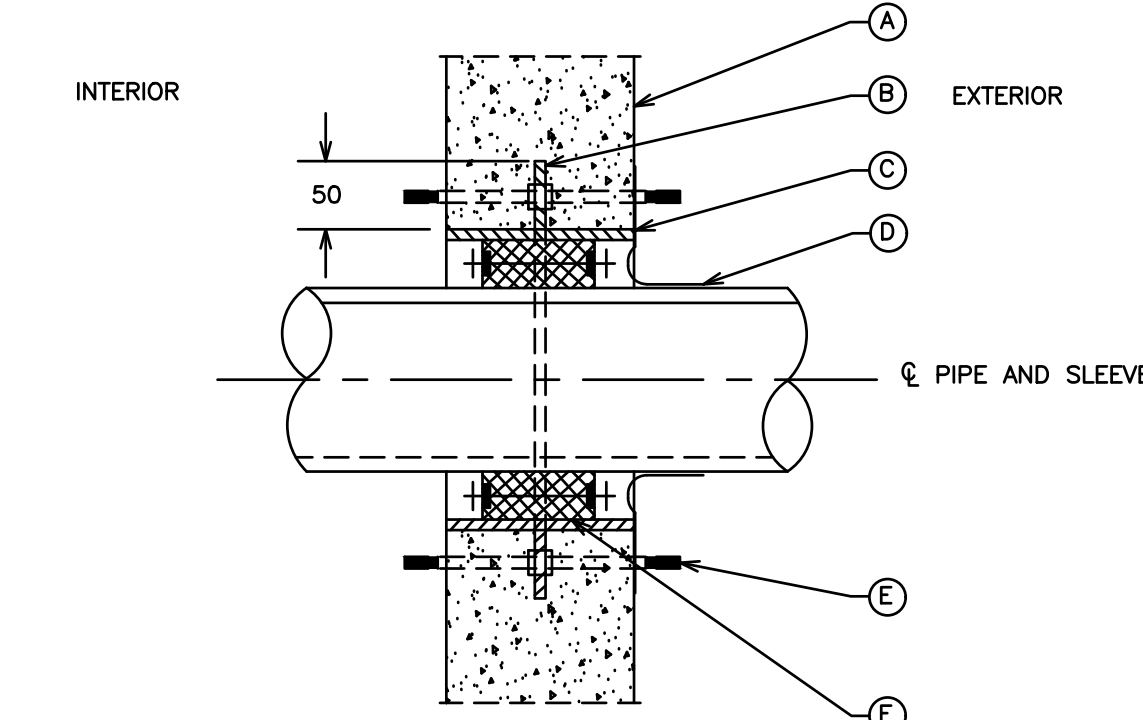
- 1. SCOPE OF WORK
 - 1.1. CONFORM TO THE APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT.
 - 1.2. THE GENERAL MECHANICAL SPECIFICATIONS SHALL APPLY TO AND BE PART OF EACH OF THE SECTIONS COVERING THE MECHANICAL WORK.
 - 1.3. COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE O.B.C., ALL OTHER APPLICABLE CODES, REGULATIONS, BY-LAWS AND OFFICIAL STANDARDS ACCORDING TO THE REQUIREMENTS AND INTERPRETATIONS OF THE AUTHORITIES HAVING JURISDICTION. THESE CODES AND STANDARDS CONSTITUTE AN INTEGRAL PART OF THESE SPECIFICATIONS. IN CASE OF CONFLICT, THE CODES TAKE PRECEDENCE OVER THE CONTRACT DOCUMENTS.
- 2. EXAMINATION OF SITE AND INFORMATION
 - 2.1. EACH SUBCONTRACTOR, BEFORE PRICING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND THEY SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING CONSTRUCTION AND FINISH IN ORDER THAT THEIR TENDER MAY INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK.
- 3. RELATIONSHIP TO OTHER TRADES
 - 3.1. THIS SUBCONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS INSTALLING EQUIPMENT, PIPING, OTHER WORK, FOUNDATIONS, ETC., WHICH MAY AFFECT THEIR INSTALLATION, AND THEY SHALL ARRANGE THEIR EQUIPMENT, PIPING, ETC., IN PROPER RELATION WITH OTHER APPARATUS, AND WITH THE BUILDING CONSTRUCTION. THIS SUBCONTRACTOR SHALL ALSO CONFIRM THE ELECTRICAL CHARACTERISTICS OF THE PROJECT AND ORDER EQUIPMENT ACCORDINGLY.
 - 3.2. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF ALL WORK, TO SEE THAT THEY ALL COME WITHIN THE LIMITS ESTABLISHED BY THE FINISH LINES OF ALL WALLS, FLOORS, CEILING, ETC.
 - 3.3. THIS SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR AND OTHER SUBCONTRACTORS WHO ARE CONCERNED, OF ALL OPENINGS, FOUNDATION WORK, HANGERS, INSERTS, ANCHORS, OR OTHER PROVISIONS WHICH ARE NECESSARY IN THEIR WORK FOR THE INSTALLATION OF THE SUBCONTRACTORS WORK, AND THEY SHALL FURNISH ALL INFORMATION AND NECESSARY MATERIALS IN AMPLE TIME SO THAT PROPER PROVISIONS CAN BE MADE FOR SAME, AND SHALL SUPPLY AND CORRECTLY AND ACCURATELY PLACE ALL INSERTS, SLEEVES, ANCHORS, ETC.
 - 3.4. FAILURE TO COMPLY WITH THESE REQUIREMENTS ON THE PART OF THIS SUBCONTRACTOR WILL RENDER THEM RESPONSIBLE FOR THE COST OF CUTTING OPENINGS, INSTALLING HANGERS AND OTHER PROVISIONS AT A LATER DATE, AND THE SUBSEQUENT PATCHING, ETC., THEREBY REQUIRED.
 - 3.5. NO CUTTING SHALL BE DONE WITHOUT PERMISSION. ALL SUCH WORK SHALL BE DONE BY TRADES-PERSONS SKILLED IN AND CERTIFIED FOR THIS PARTICULAR TRADE.
 - 3.6. EACH SUBCONTRACTOR IS TO BE AN EXPERT IN THEIR TRADE.
- 4. REQUIREMENTS OF INSPECTION DEPARTMENTS
 - 4.1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN EACH CASE, PARTICULARLY ALL AFFECTED DEPARTMENTS OF THE MUNICIPALITY AND PROVINCE. ELECTRICAL EQUIPMENT SUPPLIED MUST CONFORM TO THE REGULATIONS OF CSA AND THE LOCAL UTILITY. ANYTHING NECESSARY TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS SHALL BE PROVIDED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNERS IF IT REASONABLY COULD HAVE BEEN FORESEEN WHEN TENDERING.
 - 4.2. EACH SUBCONTRACTOR SHALL PREPARE DRAWINGS IN ADDITION TO ENGINEER'S DRAWINGS AS MAY BE REQUIRED BY VARIOUS INSPECTION DEPARTMENTS HAVING JURISDICTION, AND OBTAIN THEIR APPROVAL BEFORE PROCEEDING WITH THE WORK.
 - 4.3. IN THE EVENT THAT THE INSPECTION DEPARTMENT'S REQUEST DEVIATES FROM THE ENGINEER'S LAYOUT, THE SUBCONTRACTOR SHALL CONSULT ENGINEER BEFORE PROCEEDING WITH THE SAME. IT SHALL BE NOTED THAT ENGINEER'S DRAWINGS ARE GENERALLY ACCEPTABLE TO INSPECTION DEPARTMENTS AND MINOR SUPPLEMENTS NEED ONLY BE MADE BY SUBCONTRACTORS.
- 5. CERTIFICATES, PERMITS, FEES
 - 5.1. SUBCONTRACTORS SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES INCLUDING PAYMENT FOR STREET CONNECTIONS TO STORM, SANITARY, WATER AND GAS IN ORDER THAT THE WORK HEREIN SPECIFIED MAY BE CARRIED OUT AND THEY SHALL FURNISH ANY CERTIFICATES NEEDED AS EVIDENCE THAT THE WORK
- 6. GUARANTEE
 - 6.1. THIS SUBCONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP USED IN THE WORK TO BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, OF BEST QUALITY AND TYPE OBTAINABLE TO GIVE FIRST-CLASS CONSTRUCTION AND PROPER EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK WITHIN ONE YEAR AFTER WRITTEN ACCEPTANCE OF THEIR WORK, SHALL BE REPAIRED AND REPLACED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER, WHERE SUCH DEFECTS OCCUR. THIS SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED IN MAKING THE DEFECTIVE WORK GOOD. THIS SHALL NOT OBSOLETE ANY LONGER WARRANTIES ON SPECIFIC ITEMS OF EQUIPMENT.
 - 6.2. ALL INJURIES TO ADJACENT WORK, PARTICULARLY PLASTER, WOOD FINISHES OR OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT, CAUSED BY SUCH DEFECTS OF THIS SUBCONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENT AND REPAIR, SHALL BE MADE GOOD AT THE EXPENSE OF THIS SUBCONTRACTOR. ALL REPAIR WORK SHALL BE DONE BY TRADES RESPONSIBLE FOR THE ORIGINAL WORK.
- 7. DRAWINGS
 - 7.1. THE DRAWINGS SHOW THE APPROXIMATE LOCATION FOR SPECIAL APPARATUS AND THE MATERIALS THROUGHOUT THE BUILDING, THE ARRANGEMENT SHOWN ON THE DRAWING IS MORE OR LESS DIAGRAMMATIC AND AS SUCH APPROXIMATE ONLY, AND MAY BE ALTERED, AS APPROVED BY THE ENGINEER, TO MEET REQUIREMENTS OF THE APPARATUS, ETC., AND OF THE BUILDING. EACH SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MEASUREMENTS FOR THEIR WORK THROUGHOUT, AND THEY SHALL ARRANGE THEIR PIPING, WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN A SATISFACTORY MANNER AND SHALL CO-OPERATE WITH OTHER CONTRACTORS TO THE EXTENT THAT WORK SHALL MEET ALL REQUIREMENTS OF DIVERSE CONTRACTS.
 - 7.2. ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFIED OR SPECIFIED BUT NOT SHOWN SHALL BE INCLUDED.
 - 7.3. ITEMS OBVIOUSLY REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM BUT NOT SPECIFIED NOR SHOWN SHALL BE INCLUDED.
- 8. RESPONSIBILITY AND LIABILITY
 - 8.1. EACH SUBCONTRACTOR SHALL SUPERVISE THE LAYING OUT OF THEIR WORK AND SHALL ARRANGE IT IN CO-OPERATION WITH OTHER WHO MAY BE WORKING ON THE PREMISES WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. THEY SHALL PROTECT FINISHED AND UNFINISHED WORK OF THIS CONTRACT AND/OR WORK OF OTHERS ON THE PREMISES UNTIL THE COMPLETED WORK HAS BEEN ACCEPTED.
 - 8.2. THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND IN THE DRAWINGS OR SPECIFICATIONS BEFORE SUBMITTING THEIR TENDER. THEY SHALL ABIDE BY DECISIONS GIVEN TO THEM IN WRITING WITH REGARD TO SAME. EACH SUBCONTRACTOR IS CAUTIONED THAT THE WORK AS SHOWN IS INTENDED TO BE COMPLETE IN ALL RESPECTS AND THAT FAILURE ON THEIR PART TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF COMPLETING THE WORK AS INTENDED AT THE CONTRACT PRICE.
- 9. CLEAN-UP
 - 9.1. DURING THE COURSE OF CONSTRUCTION, EACH SUBCONTRACTOR SHALL KEEP THEIR WORK TIDY AND NOT ALLOW AN ACCUMULATION OF DEBRIS RESULTING FROM THEIR WORK.
 - 9.2. UPON COMPLETION OF THEIR WORK THEY SHALL LEAVE THE PREMISES IN A BROOM-CLEAN CONDITION.
- 10. PROTECTION
 - 10.1. SUBCONTRACTORS ARE TO PROTECT THEIR WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG AND CAP ALL OPENINGS IN PIPE, EQUIPMENT AND FIXTURES TO PREVENT OBSTRUCTIONS.
- 11. ELECTRICAL WIRING AND CONTROLS
 - 11.1. ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL DIVISION. THE MECHANICAL TRADE INVOLVED SHALL PROVIDE STARTERS, THERMOSTATS, VALVES, CONTROL TRANSFORMERS, RELAYS, ETC. ALL CONTROL WIRING SHALL BE DONE BY THE MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED ELSEWHERE IN THIS SPECIFICATION.

INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF THE MUNICIPALITY AND PROVINCE.



TYPICAL DUPLEX SUBMERSIBLE SUMP PUMP NTS

ITEM	DESCRIPTION
A.	EXTERIOR WALL
B.	WATER STOP AND ANCHOR COLLAR
C.	LINK-SEAL TYPE WALL SLEEVE MODEL WS OR CORE BIT DRILL WALL OPENING. DIA. AS REQ'D TO ACCEPT LINK SEAL ASSEMBLY
D.	EXTERIOR SURFACE OF SLEEVE, SEAL AND PIPE SHOULD BE COATED WITH COAL TAR OR OTHER WATERPROOFING MATERIAL
E.	25 DIA. GALVANIZED THREADED RODS FOR STRAPPING WATER MAINS, COORDINATE SPACING WITH FLANGERS AND SOCKET CLAMPS USED FOR THE RODS
F.	LINK-SEAL TYPE WALL PENETRATION SEAL MODEL -LS- MODULAR MECHANICAL SYNTHETIC RUBBER SEAL



NOTES:

- 1. THE PIPE TO WALL PENETRATION CLOSURE SHALL BE "LINK-SEAL". SEALS SHALL BE MODULAR MECHANICAL TYPE, CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINK SHAPED TO CONTINUOUSLY FILL THE ANNULAR SPACE BETWEEN PIPE AND WALL OPENING. EACH LINK SHALL BE PROVIDED WITH PRESSURE PLATE UNDER EACH BOLT HEAD AND NUT. TIGHTENING OF BOLTS SHALL CAUSE THE RUBBER SEALING ELEMENTS TO EXPAND AND PROVIDE AN ABSOLUTELY WATER TIGHT SEAL BETWEEN PIPE AND WALL OPENING.

PIPE PENETRATION THROUGH EXTERIOR WALL NTS

STORM/SANITARY PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	FLOW	PRESSURE	ELECTRICAL	PUMP CHAMBER	ACCESSORIES & NOTES
P-1	SCARBORO PUMP	OSP50	40gpm	16 FEET	120V/1PH	CHAMBER + 30"18" TILE(S)	DUPLEX C/W CONTROLLER
P-2	SCARBORO PUMP	SP40	55gpm	20 FEET	120V/1PH	CHAMBER + 30"18" TILE(S)	DUPLEX C/W CONTROLLER

PUMP CHAMBER : ARMITEC BROOKLIN - 36" PUMP CHAMBER W/ 30" WELL TILES & 18" HALF TILES AVAILABLE

PLUMBING EQUIPMENT SCHEDULE

- WC-1 - FLOOR MOUNTED TOILET - VITREOUS CHINA - TANK TYPE American Standard Codet Pro Right Height Elongated #215AA.104.020 Toilet, 419 mm high, white vitreous china with EverClean antimicrobial surface which inhibits the growth of stain and odor causing bacteria mold and mildew, Floor Mounted, cadet flushing system with PowerWash rim siphon flushing system which scrubs bowl with every flush, 4.8 L (1.28 US Gal) per flush, raised sanitary bar and four (4) points tank stabilization, 229 mm x 203 mm (9" x 8") water surface, two (2) piece, "Speed Connect" tank assembly, unlined tank, oversized 76 mm (3") flush valve with flapper, Metal shank fill valve, 305 mm (12") rough-in, elongated bowl, 54 mm (2-1/8") fully glazed internal trapway, floor outlet, bolt caps, Centoco #800STS.001 Toilet Seat, extra heavy duty, for elongated bowl closed front, white solid plastic, with cover, stainless steel check hinges, metal flat washers stainless steel posts and nuts, McGuire #LFH172BV, Toilet Supply, chrome plated finish polished brass, commercial duty 1/4 turn ball valve angle stops, 13 mm (1/2") I.D. Inlet x 127 mm (5") long rigid horizontal integral copper sweat tube nipples, combination V.P. Loose key handles, escutcheon and flexible copper risers. Provide Floor Flange, (same material as the connecting pipe drain), with all brass bolts and with rubber gasket.
- WC-2 - FLOOR MOUNTED TOILET - VITREOUS CHINA - TANK TYPE (BARRIER FREE) American Standard Codet Pro Right Height Elongated #215AA.104.020 Toilet, 419 mm high, white vitreous china with EverClean antimicrobial surface which inhibits the growth of stain and odor causing bacteria mold and mildew, Floor Mounted, cadet flushing system with PowerWash rim siphon flushing system which scrubs bowl with every flush, 4.8 L (1.28 US Gal) per flush, raised sanitary bar and four (4) points tank stabilization, 229 mm x 203 mm (9" x 8") water surface, two (2) piece, "Speed Connect" tank assembly, unlined tank, oversized 76 mm (3") flush valve with flapper, Metal shank fill valve, 305 mm (12") rough-in, elongated bowl, 54 mm (2-1/8") fully glazed internal trapway, floor outlet, bolt caps. Provide bolted tank cover if required - to meet local codes. Provide trip lever on open side of Toilet (wide side) if required - to meet local codes. Centoco #202TS.001 Toilet Seat, extra heavy duty, for elongated bowl, open front, white solid plastic, with cover, stainless steel check hinges, metal flat washers stainless steel posts and nuts, McGuire #LFH172BV, Toilet Supply, chrome plated finish polished brass, commercial duty 1/4 turn ball valve angle stops, 13 mm (1/2") I.D. Inlet x 127 mm (5") long rigid horizontal integral copper sweat tube nipples, combination V.P. Loose key handles, escutcheon and flexible copper risers. Provide Floor Flange, (some material as the connecting pipe drain), with all brass bolts and with rubber gasket.
- LV-1 - COUNTER MOUNTED SELF-RIMMING / DROP-IN BASIN - SINGLE HANDLE FAUCET BELOW DECK MECHANICAL WATER MIXING VALVE American Standard Codet Universal Access #6494A.001 basin, 3 holes, 4" (102 mm) center, 533 mm x 445 mm x 175 mm (21" x 17-1/2" x 6-7/8") high, oval, vitreous china, Self-rimming / Drop-in, side rear overflow, faucet ledge. Provide basin rim sealant, Chicago Faucets #420-ABCP Single Handle Faucet, chrome plated finish, 4" (102 mm) centerset, ECAS construction lead free (equal or less than 0.25%) cast brass body, ceramic 1/4 turn cartridge, 5.7 LPM (1.5 GPM) non-erating laminar flow outlet, 131 mm (5-3/16") projection reach, lever handle, volume control, adjustable hot limit safety stop. Lowerer #TMM-1070, Below Deck Mechanical Water Mixing Valve, bronze body, temperature adjusting dial, 10 mm (3/8") inlets and outlet compression fittings, high temperature thermostatic limit stop, shut-off with automatic reset when temperature exceeds 120 °F (48.8 °C), integral checks, offer temperature range from full cold through 46 °C (114.8 °F). Provide tee, adaptors and flex. copper tubing to suit installation. Provide tempered water to hot side of faucet. McGuire #155A Open Grid Drain, cast brass one piece top, 17 GA. (1.5 mm) tubular 32 mm (1-1/4") tailpiece. McGuire #LFH170BV, Faucet Supplies, chrome plated finish polished brass, commercial duty 1/4 turn ball valve angle stops, 13 mm (1/2") I.D. Inlet x 127 mm (5") horizontal extension tubes, combination V.P. Loose key handles, escutcheon and flexible copper risers. McGuire #8972C P-Trap, heavy cast brass adjustable body, with slip nut, 32 mm (1-1/4") size, shallow wall flange and seamless tubular wall bend.
- LV-2 - COUNTER MOUNTED SELF-RIMMING / DROP-IN BASIN - SINGLE HANDLE FAUCET BELOW DECK MECHANICAL WATER MIXING VALVE (BARRIER FREE) American Standard Codet Universal Access #6494A.001 basin, 3 holes, 4" (102 mm) center, 533 mm x 445 mm x 175 mm (21" x 17-1/2" x 6-7/8") high, oval, vitreous china, Self-rimming / Drop-in, side rear overflow, faucet ledge. Provide basin rim sealant, Chicago Faucets #420-ABCP Single Handle Faucet, chrome plated finish, 4" (102 mm) centerset, ECAS construction lead free (equal or less than 0.25%) cast brass body, ceramic 1/4 turn cartridge, 5.7 LPM (1.5 GPM) non-erating laminar flow outlet, 131 mm (5-3/16") projection reach, lever handle, volume control, adjustable hot limit safety stop. Lowerer #TMM-1070, Below Deck Mechanical Water Mixing Valve, bronze body, temperature adjusting dial, 10 mm (3/8") inlets and outlet compression fittings, high temperature thermostatic limit stop, shut-off with automatic reset when temperature exceeds 120 °F (48.8 °C), integral checks, offer temperature range from full cold through 46 °C (114.8 °F). Provide tee, adaptors and flex. copper tubing to suit installation. Provide tempered water to hot side of faucet. McGuire #155WC Offset Open Grid Drain, cast brass one piece top, 17 GA. (1.5 mm) tubular 32 mm (1-1/4") tailpiece. McGuire #LFH170BV, Faucet Supplies, chrome plated finish polished brass, commercial duty 1/4 turn ball valve angle stops, 13 mm (1/2") I.D. Inlet x 127 mm (5") horizontal extension tubes, combination V.P. Loose key handles, escutcheon and flexible copper risers. McGuire #8972C P-Trap, heavy cast brass adjustable body, with slip nut, 32 mm (1-1/4") size, shallow wall flange and seamless tubular wall bend. McGuire PROWRAP #PW200WC Sanitary Covering vandal-resistant, flexible seamless moulded closed-cell PVC resin, formulated with anti-microbial additive to limit the growth of fungus and bacteria, to exposed piping (to protect against heat/contusions) as per local codes.
- SK-1 - COUNTERTOP MOUNT SINK - SINGLE HANDLE FAUCET Franke Commercial #LBD6408-1/3 Double Bowl Countertop Mount Sink, 3 holes, 8" (203 mm) center, 794 mm (31-1/4") wide x 521 mm (20-1/2") long x 203 mm (8") high deep, spillway, counter mounted, backledge, grade 18-10 20 GA. (0.9 mm) type 302 stainless steel, self-rimming, satin finish rim and bowls, mounting kit provided, fully

undercoated to reduce condensation and resonance, factory applied rim seal, 3-1/2" (89 mm) crumb cup waste assembly with 1-1/2" (38 mm) tailpiece.
American Standard Reliant #4205.104M075 Single Handle Faucet, stainless steel finish, 8" (203 mm) centerset, washerless ceramic disc cartridge, 8.3 LPM (2.2 GPM) regulator, swing spout, 232 mm (9-1/8") projection reach, lever handle, deluxe pull-out spray with adjustable spray pattern and lock & trap activation button. McGuire #LFH170BV, Faucet Supplies, chrome plated finish polished brass, commercial duty 1/4 turn ball valve angle stops, 13 mm (1/2") I.D. Inlet x 127 mm (5") horizontal extension tubes, combination V.P. Loose key handles, escutcheon and flexible copper risers. McGuire #89120B P-Trap, heavy cast brass adjustable body, with slip nut, 38 mm (1-1/2") size, box flange and seamless tubular wall bend.

WM-1 - WASHING MACHINE SPECIFICATIONS BY ARCHITECT, SUPPLIED/INSTALLED BY CONTRACTOR

BT-1 - BATH TUB SPECIFICATIONS BY ARCHITECT, SUPPLIED/INSTALLED BY CONTRACTOR

BT-2 - BATH TUB (BARRIER FREE) SPECIFICATIONS BY ARCHITECT, SUPPLIED/INSTALLED BY CONTRACTOR

DW-1 - DISHWASHER SPECIFICATIONS BY ARCHITECT, SUPPLIED/INSTALLED BY CONTRACTOR

HYDRANT - NON-FREEZE WALL HYDRANT WITH NB BOX INTEGRAL VACUUM BREAKER Watts #H1-725 Hydrant non-freeze hydrant, all bronze head, seat casting and internal working parts, well mount hydrant, concealed, chrome plated face, chrome plated face, integral vacuum breaker, nickel bronze box and door, loose key, 3/4"Ø (19 mm) hose connection, 3/4"Ø (19 mm) female x 1"Ø (25 mm) male pipe connection.

BACKWATER VALVE - PIT DRAIN WITH BACK WATER VALVE Watts #BV-600 Backwater Valve - epoxy coated, cast iron body, backwater valve with bronze seat and flapper, epoxy coated cast iron grate and frame, secured angle grate, no hub outlet.

ROOF DRAIN - LARGE CONVENTIONAL INSULATED ROOF Watts #RD-100-5-B-D-E-L-K Roof Drain - epoxy coated, 14-1/8" (359 mm) diameter, cast iron body, flashing clamp and integral gravel stop, with self locking 12-3/8" (314 mm) diameter ductile iron dome, sump receiver, sediment bucket, vandal proof dome, adjustable extension, under deck clamp, no hub outlet.

FLOOR DRAIN - FINISHED AREA Watts #FD-100-C-EG-50-7-6 Floor Drain - epoxy coated, cast iron body, reversible flashing clamp with primary and secondary weepholes, 5" (127 mm) diameter nickel bronze, adjustable round strainer, 14" x 9" (102 mm x 229 mm) oval cast iron funnel, vandal proof trap primer connection with plug, no hub outlet.

FLOOR DRAIN - FINISHED AREA Watts #FD-100-C-2-5-45-1 Floor Drain - epoxy coated, cast iron body, reversible flashing clamp with primary and secondary weepholes, top primer connection with plug, round strainer, no hub outlet. Watts -A5-1 5" (127 mm) diameter, nickel bronze, adjustable round strainer.

ACCESS DOOR - UNIVERSAL FLUSH Acudor UF-5000 6 x 6 SCPC Universal Flush, flush to frame door with rounded safety corners, carbon steel with prime cast baked enamel finish, 16 GA. (1.5 mm) up to 16" x 16"; 14 GA. (1.9 mm) over 16" x 16", 6" x 6" (152 mm x 152 mm), one piece frame outer flange welded to mounting frame, 18 GA. (1.2 mm) up to 16" x 16"; 16 GA. (1.5 mm) over 16" x 16", continuous, concealed hinge, stainless steel screwdriver operated cam latch.

ACCESS DOOR - FIRE-RATED INSULATED Acudor FW-5050 9 x 8 WPCP fire-rated insulated, self-closing door filled with 2" (51 mm) thick fire rated insulation, ULC-2 hour "B" label. Carbon steel with prime cast baked enamel finish, 20 GA. (1.0 mm) door, 8" x 8" (203 mm x 203 mm), 16 GA. (1.5 mm) frame, concealed hinge, knurled knob and flush key. When master keying is required, doors can be prepared for mortise cylinder locks. For ceilings: Warnock Hersey International - 3 hours max size 24 x 36. For walls: UL-1-1/2 hour "B" label.

TRAP SEAL PRIMER P.P.P. #PT-4 Trap Seal Primer serving four drains, activated by a 3/4" (19 mm) normally closed solenoid valve, designed to interface with low voltage energy management systems control, 3/4" (19 mm) diameter connection anti-siphon atmospheric vacuum breaker.

TRAP SEAL PRIMER P.P.P. #PRO1-500 Trap Seal Primer - lead-free brass body flow sensing activation with minimum flow rate of 0.5 GPM at 20 psi, 1/2" (13 mm) diameter connection equipped with vacuum breaker ports and internal backflow protection.

BACKFLOW PREVENTER - LEAD FREE - DOUBLE CHECK VALVE ASSEMBLY Watts LFT57-NRS LEAD FREE - Double Check Valve Assembly - two independent, removable and serviceable tri-link check modules within a single housing, drip tight closure against reverse flow, 304 schedule 40 stainless steel housing and sleeve, stainless steel springs, reversible elastomeric discs, sleeved access port, two drip tight shut-off valves non-rising stem gate valves, four lead free, bronze body, nickel plated test cocks.

CLEANOUT - STACK CLEANOUT WITH BRASS PLUG WITH STAINLESS STEEL COVER Watts #CO-460-R Cleanout, cast iron body, removable, gasketed, brass plug, round cover, access cover, stainless steel cover, no hub outlet.

CLEANOUT - FLOOR CLEANOUT Watts #CO-200-R-1-6-34C Cleanout - epoxy coated, cast iron body, ABS plug with neoprene gasket, vandal proof, no hub outlet.

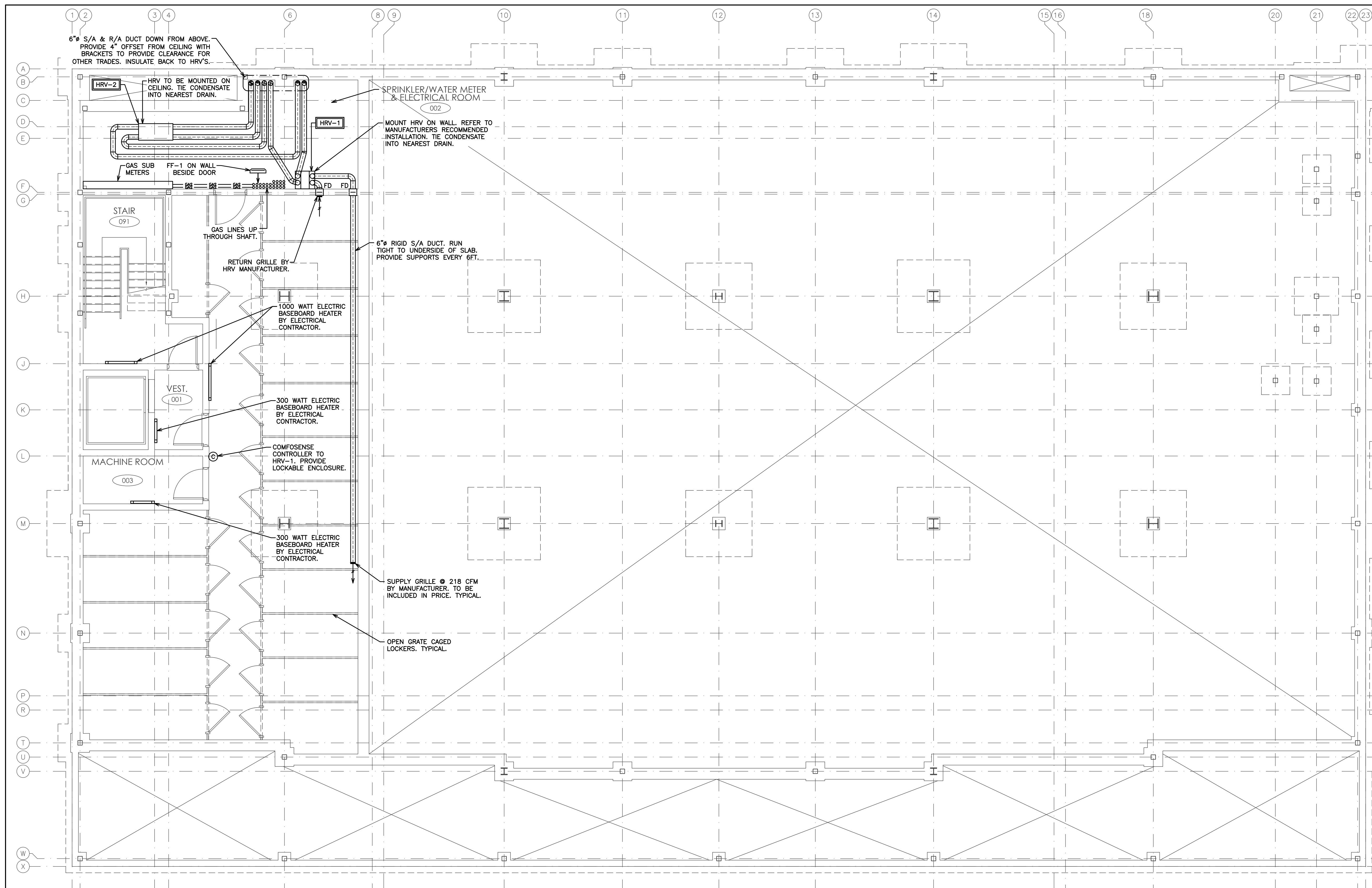
NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20 G.O.	G.V.W.O.	
4	ISSUED FOR PRICING	DEC 13 G.O.	G.V.W.O.	
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28 G.O.	G.V.W.O.	
2	ISSUED FOR COORDINATION	SEP 29 G.O.	G.V.W.O.	
1	ISSUED FOR COORDINATION	SEP 16 G.O.	G.V.W.O.	

REVISIONS
496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER
MECHANICAL PLUMBING
NOTES & SCHEDULES

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905) 576-8500 • FAX (905) 576-9730
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SCALE: 1/8" = 1'
PROJECT NO: 115147
DRAWN BY: B.C.A DRAWING NO: M1.7
DESIGN BY: B.C.A/G.V.W.O.
CHECKED BY: G.V.W.O. CAD FILE: 115147 M
DATE: DECEMBER 2016 PLOT DATE: 12/20/16
SUBMISSION: PERMIT

PROFESSIONAL ENGINEER
G.V.W. OSBORNE
100136545
Dec 20/16
PROVINCE OF ONTARIO



HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SIDE WALL GRILLE
	EQUIPMENT/FIXTURE TAG
	COMPOSENSE CONTROLLER BY ZEHNDER
	FIRE DAMPER

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
4	ISSUED FOR PRICING	DEC 13	G.O.	G.V.W.O.
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1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC BASEMENT LAYOUT

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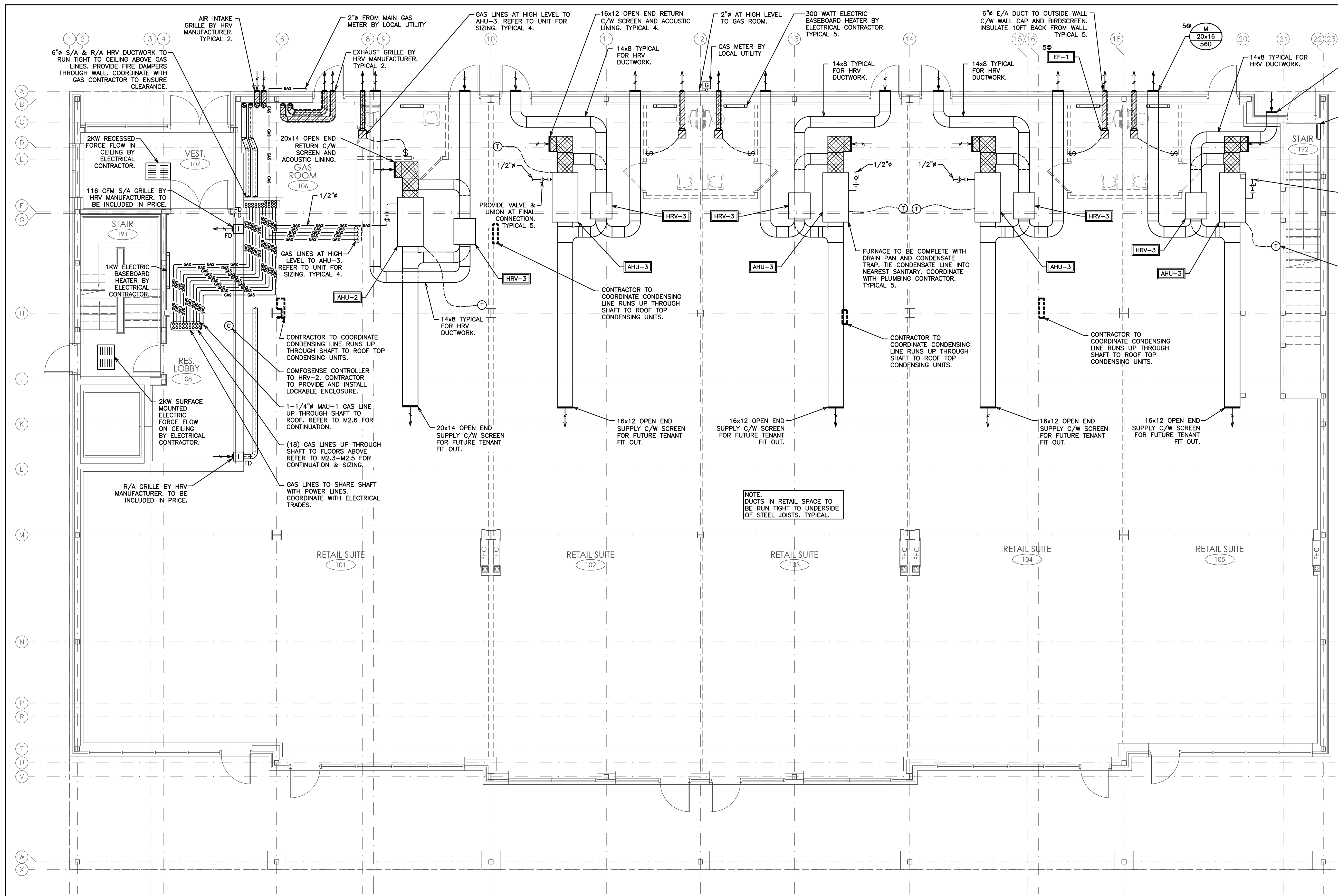
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DRAWN BY:	J.T.C.	DRAWING NO.	M2.1
DESIGN BY:	J.T.C./G.V.W.O.	CAD FILE:	115147 M
CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
DATE:	DECEMBER 2016	SUBMISSION:	PERMIT

NOTE:
CONTRACTOR TO PROVIDE MAINTENANCE CLEARANCES FOR OVERHEAD EQUIPMENT. REFER TO MANUFACTURER'S RECOMMENDED CLEARANCES.

NOTE:
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NOTE:
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NOTE:
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HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (RECT)
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SUPPLY, RETURN, EXHAUST AIR GRILLE
	SIDE WALL GRILLE
	A- GRILLE/DIFFUSER TYPE B- DIFFUSER NECK SIZE/GRILLE SIZE C- AIR QUANTITY (CFM)
	SENSOR AND ASSOCIATED CONTROL WIRING
	EQUIPMENT/FIXTURE TAG
	DIRECTION OF AIR FLOW
	THERMOSTAT EQUAL TO HONEYWELL TB8220U: 7-DAY PROGRAMMABLE C/W AUTO CHANGEOVER
	COMFOSENSE CONTROLLER BY ZEHNDER
	ACOUSTIC LINED DUCT
	FIRE DAMPER
	GAS LINE
	GAS METER
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION
	PIPE BREAK/CONTINUATION

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
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1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC MAIN FLOOR LAYOUT

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PHONE (905)576-8500 • FAX (905)576-9730
INFO@DGBIDDLE.COM

	SCALE: 3/16" = 1'	PROJECT NO. 115147
	DRAWN BY: J.T.C.	DRAWING NO. M2.2
	DESIGN BY: J.T.C./G.V.W.O.	CAD FILE: 115147 M
	CHECKED BY: G.V.W.O.	DATE: DECEMBER 2016

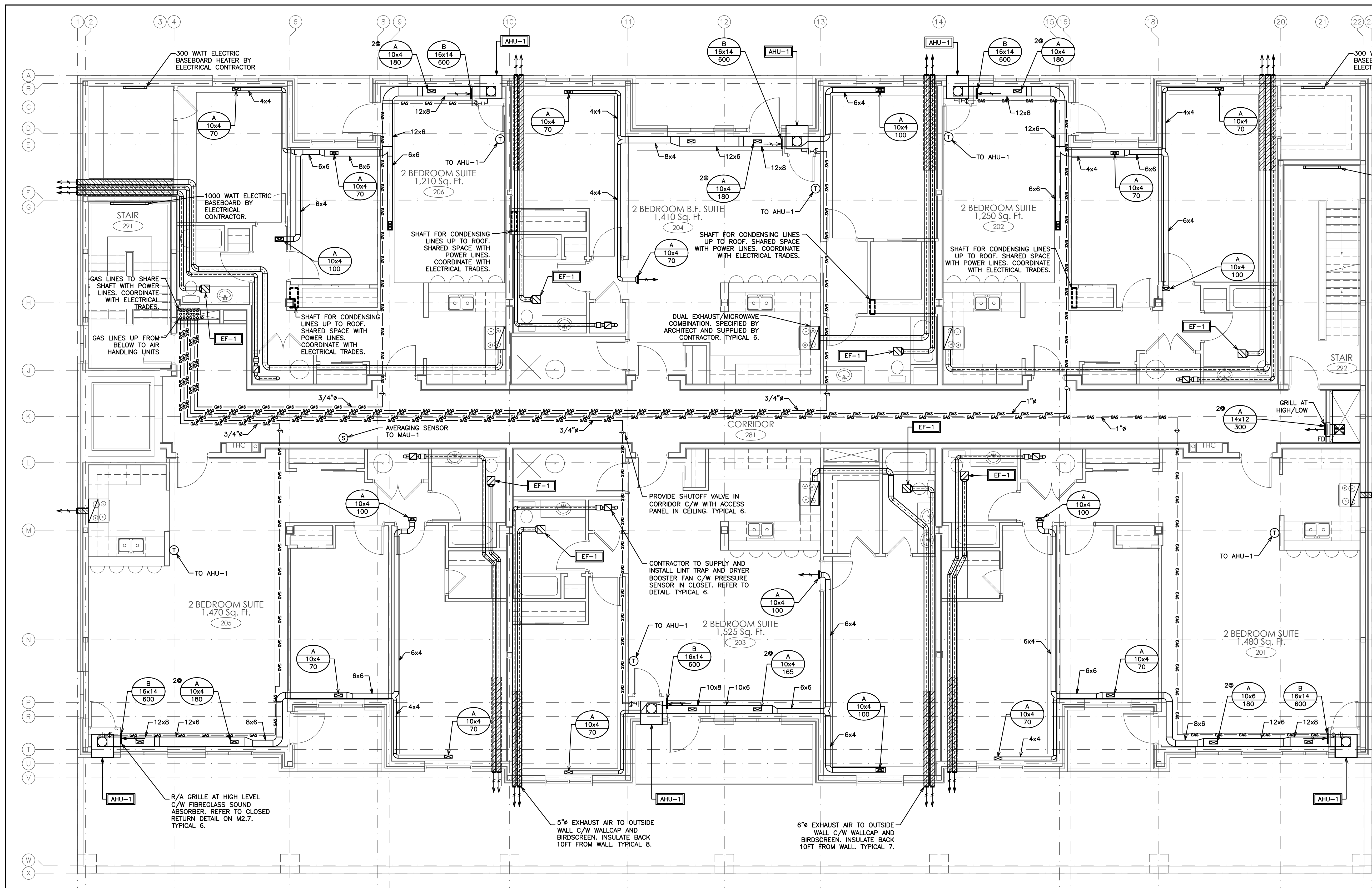
NOTE:
CONTRACTOR TO PROVIDE
MAINTENANCE CLEARANCES
FOR OVERHEAD EQUIPMENT.
REFER TO MANUFACTURERS
RECOMMENDED CLEARANCES.

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ARE TO BE USED FOR SCOPE
OF WORK PURPOSES ONLY.
COORDINATE WITH ALL TRADES
AND MANUFACTURERS BEST
PRACTICES AND DIRECTIONS.

NOTE:
ALL DUCTWORK THAT
PENETRATES AN OUTSIDE WALL
TO BE INSULATED MIN 10FT
BACK FROM OUTSIDE WALL.

NOTE:
TENDERING OF THESE DOCUMENTS IS DONE
UNDER THE MUTUAL UNDERSTANDING THAT ALL
CONTRACTORS ARE EXPERIENCED AND LICENSED
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NOTE:
COORDINATE ALL ADDITIONAL
PROVISIONS INCLUDING, BUT
NOT LIMITED TO; COMBUSTION
AIR AND VENTILATION AIR WITH
GENERAL CONTRACTOR DURING
TENDER PERIOD.



HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (RECT)
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SUPPLY, RETURN, EXHAUST AIR GRILLE
	SIDE WALL GRILLE
	A - GRILLE/DIFFUSER TYPE B - DIFFUSER NECK SIZE/GRILLE SIZE C - AIR QUANTITY (CFM)
	SENSOR AND ASSOCIATED CONTROL WIRING
	EQUIPMENT/FIXTURE TAG
	DIRECTION OF AIR FLOW
	THERMOSTAT EQUAL TO HONEYWELL T8220U: 7-DAY PROGRAMMABLE C/W AUTO CHANGEOVER
	FIRE DAMPER
	GAS LINE
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION
	PIPE BREAK/CONTINUATION

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
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1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ON
 PETER HOOGER

MECHANICAL HVAC SECOND FLOOR LAYOUT

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 consulting engineers and planners
 96 KING STREET EAST • OSHAWA, ON L1H 1B6
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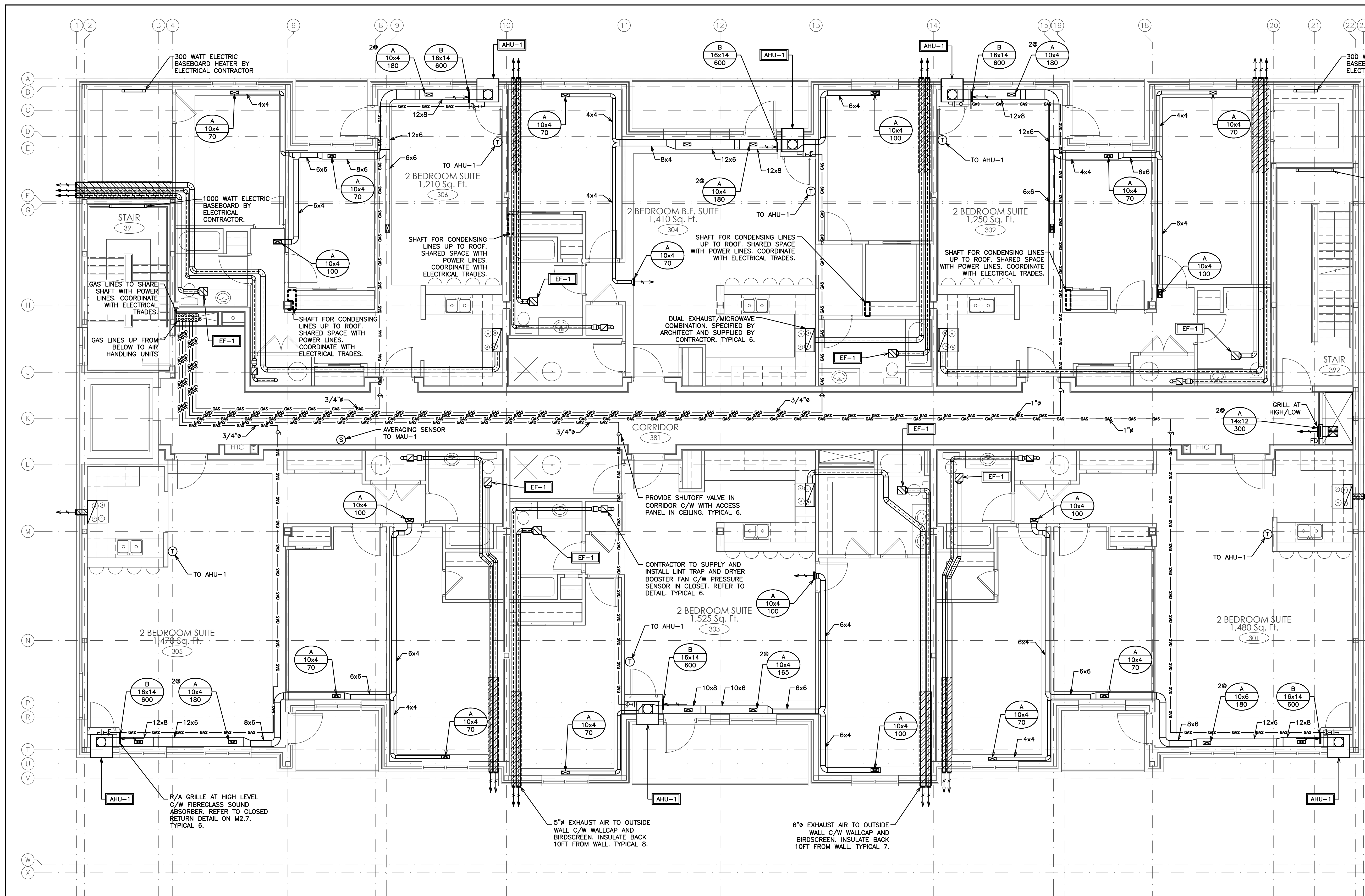
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 PROJECT NO. 115147
 DRAWING NO. M2.3
 DRAWN BY: J.T.C.
 DESIGN BY: J.T.C./G.V.W.O.
 CHECKED BY: G.V.W.O.
 DATE: DECEMBER 2016
 CAD FILE: 115147 M
 PLOT DATE: 12/20/16
 SUBMISSION: PERMIT

NOTE:
 ALL DETAILS SHOWN ARE SCHEMATIC BY NATURE AND ARE TO BE USED FOR SCOPE OF WORK PURPOSES ONLY. COORDINATE WITH ALL TRADES AND MANUFACTURERS' BEST PRACTICES AND DIRECTIONS.

NOTE:
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NOTE:
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NOTE:
 ALL SUPPLY DUCTWORK RUNNING ALONG AN OUTSIDE WALL TO BE INSULATED.



HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (RECT)
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SUPPLY, RETURN, EXHAUST AIR GRILLE
	SIDE WALL GRILLE
	A - GRILLE/DIFFUSER TYPE
	B - DIFFUSER NECK SIZE/GRILLE SIZE
	C - AIR QUANTITY (CFM)
	SENSOR AND ASSOCIATED CONTROL WIRING
	EQUIPMENT/FIXTURE TAG
	DIRECTION OF AIR FLOW
	THERMOSTAT EQUAL TO HONEYWELL TBB220U: 7-DAY PROGRAMMABLE C/W AUTO CHANGEOVER
	FIRE DAMPER
	GAS LINE
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION
	PIPE BREAK/CONTINUATION

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20 G.O.	G.V.W.O.	
4	ISSUED FOR PRICING	DEC 13 G.O.	G.V.W.O.	
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28 G.O.	G.V.W.O.	
2	ISSUED FOR COORDINATION	SEP 29 G.O.	G.V.W.O.	
1	ISSUED FOR COORDINATION	SEP 16 G.O.	G.V.W.O.	

496 TAUNTON ROAD EAST, OSHTAWA, ON
PETER HOOGER

MECHANICAL HVAC THIRD FLOOR LAYOUT

D.G. Biddle & Associates Limited
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96 KING STREET EAST • OSHTAWA, ON L1H 1B6
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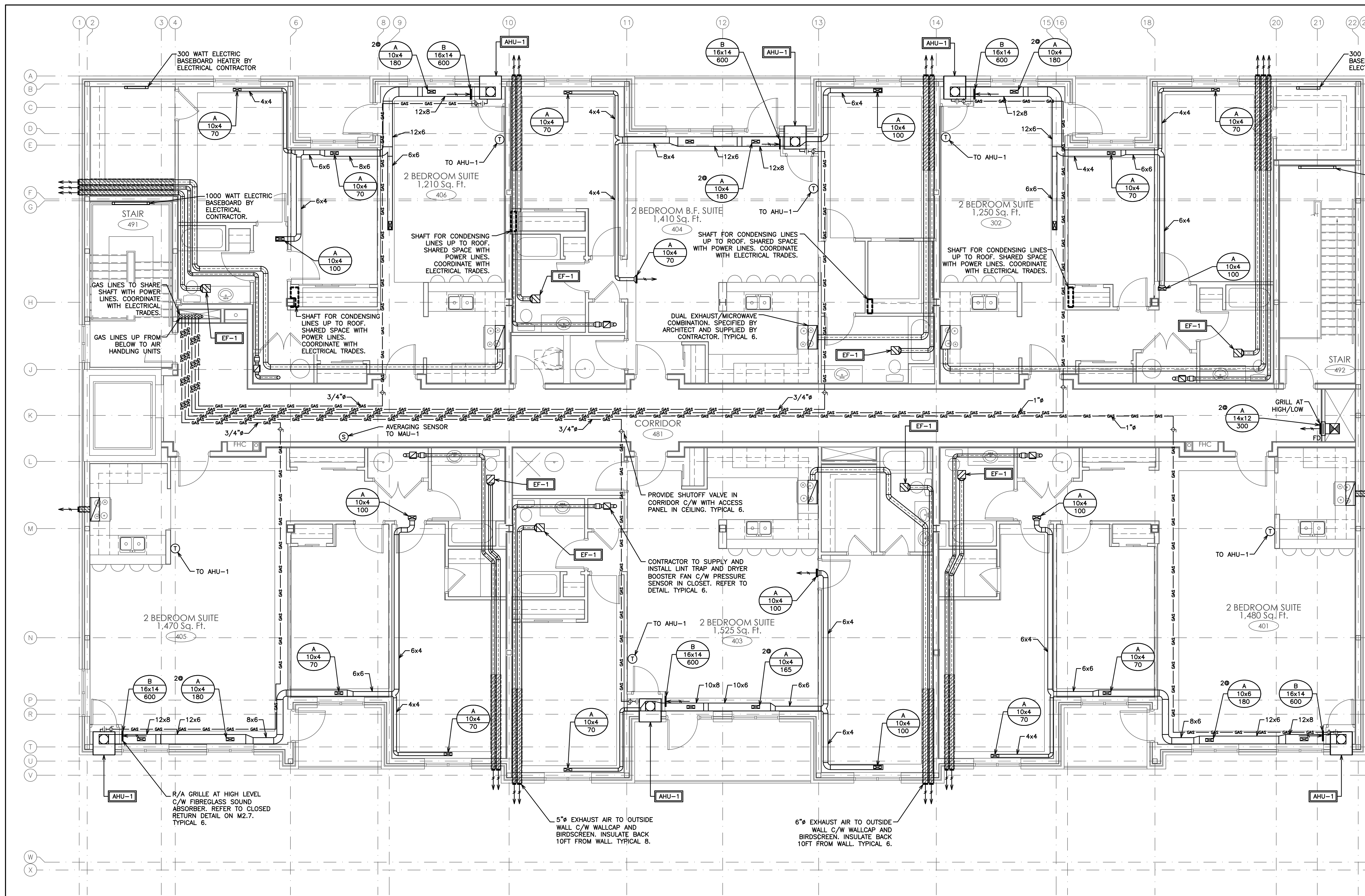
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	DRAWN BY: J.T.C.	DRAWING NO. M2.4
	DESIGN BY: J.T.C./G.V.W.O.	CAD FILE: 115147 M
	CHECKED BY: G.V.W.O.	PLOT DATE: 12/20/16
DATE: DECEMBER 2016		SUBMISSION: PERMIT

NOTE:
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NOTE:
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NOTE:
ALL SUPPLY DUCTWORK RUNNING ALONG AN OUTSIDE WALL TO BE INSULATED.



HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT UP (RECT)
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	SUPPLY, RETURN AIR DUCT UP (ROUND)
	SUPPLY, RETURN AIR DUCT DOWN (ROUND)
	SUPPLY, RETURN, EXHAUST AIR GRILLE
	SIDE WALL GRILLE
	A- GRILLE/DIFFUSER TYPE B- DIFFUSER NECK SIZE/GRILLE SIZE C- AIR QUANTITY (CFM)
	SENSOR AND ASSOCIATED CONTROL WIRING
	EQUIPMENT/FIXTURE TAG
	DIRECTION OF AIR FLOW
	DIRECTION OF AIR FLOW
	THERMOSTAT EQUAL TO HONEYWELL TB8220U; 7-DAY PROGRAMMABLE C/W AUTO CHANGEOVER
	FIRE DAMPER
	GAS LINE
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION
	PIPE BREAK/CONTINUATION

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20 G.O.	G.V.W.O.	
4	ISSUED FOR PRICING	DEC 13 G.O.	G.V.W.O.	
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28 G.O.	G.V.W.O.	
2	ISSUED FOR COORDINATION	SEP 29 G.O.	G.V.W.O.	
1	ISSUED FOR COORDINATION	SEP 16 G.O.	G.V.W.O.	

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC FOURTH FLOOR LAYOUT

D.G. Biddle & Associates Limited
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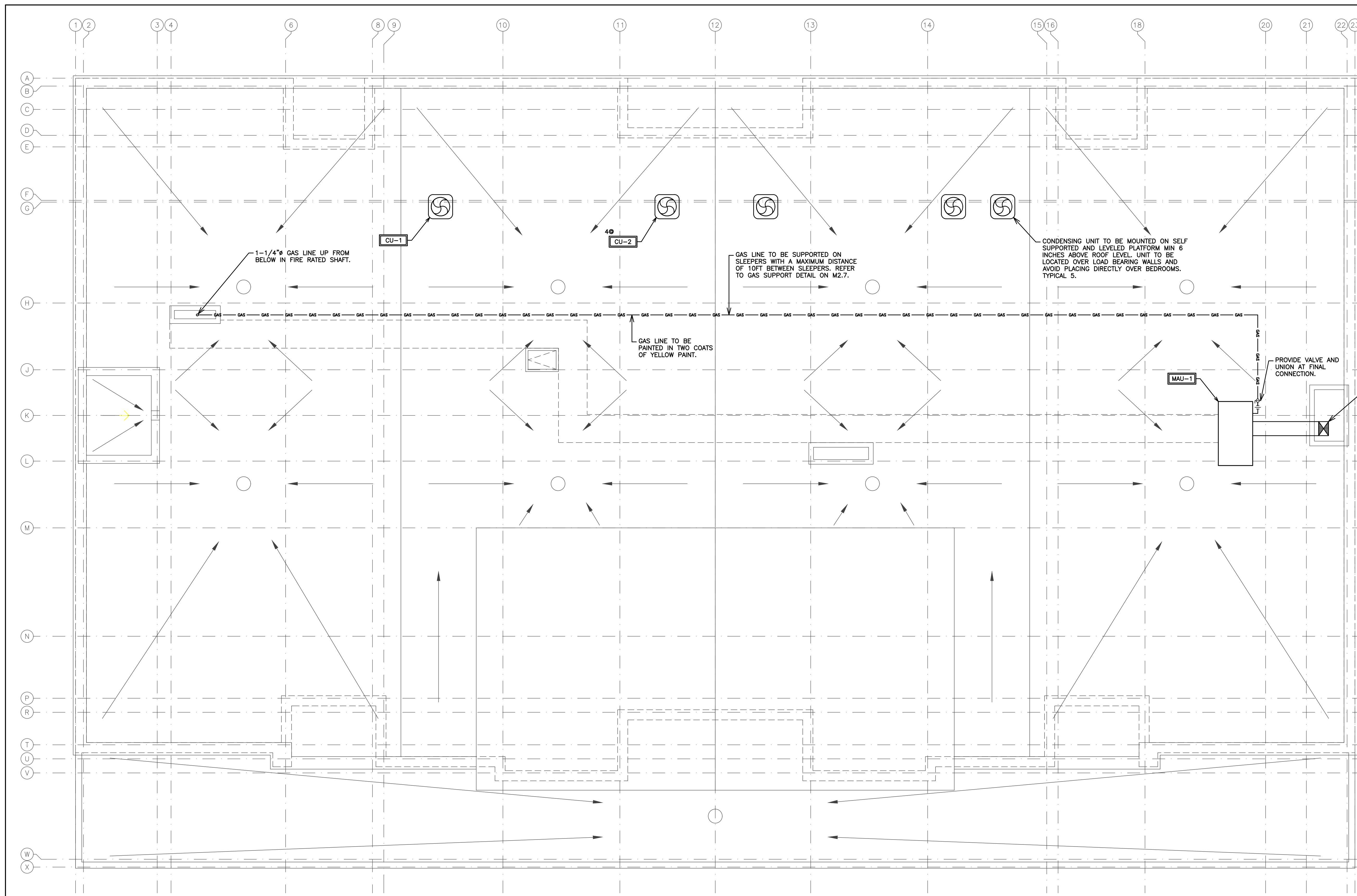
	SCALE: 3/16" = 1'	PROJECT NO. 115147
	DRAWN BY: J.T.C.	DRAWING NO. M2.5
	DESIGN BY: J.T.C./G.V.W.O.	CAD FILE: 115147 M
	CHECKED BY: G.V.W.O.	PLOT DATE: 12/20/16
DATE: DECEMBER 2016		SUBMISSION: PERMIT

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NOTE:
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NOTE:
ALL SUPPLY DUCTWORK RUNNING ALONG AN OUTSIDE WALL TO BE INSULATED.



1-1/4" GAS LINE UP FROM BELOW IN FIRE RATED SHAFT.

GAS LINE TO BE SUPPORTED ON SLEEPERS WITH A MAXIMUM DISTANCE OF 10FT BETWEEN SLEEPERS. REFER TO GAS SUPPORT DETAIL ON M2.7.

CONDENSING UNIT TO BE MOUNTED ON SELF SUPPORTED AND LEVELED PLATFORM MIN 6 INCHES ABOVE ROOF LEVEL. UNIT TO BE LOCATED OVER LOAD BEARING WALLS AND AVOID PLACING DIRECTLY OVER BEDROOMS. TYPICAL 5.

GAS LINE TO BE PAINTED IN TWO COATS OF YELLOW PAINT.

PROVIDE VALVE AND UNION AT FINAL CONNECTION.

18x14 DOWN FIRE RATED SHAFT. REFER TO MAKE UP AIR RISER DETAIL ON M2.7 FOR CONTINUATION.

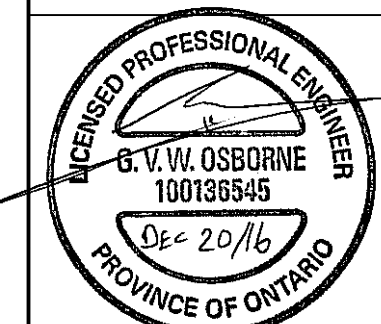
HVAC LEGEND	
	SUPPLY, RETURN AIR DUCT DOWN (RECT)
	EQUIPMENT/FIXTURE TAG
	FIRE DAMPER
	GAS LINE
	PIPE UP, PIPE DOWN
	SHUTOFF VALVE
	UNION

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
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496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC ROOF LAYOUT

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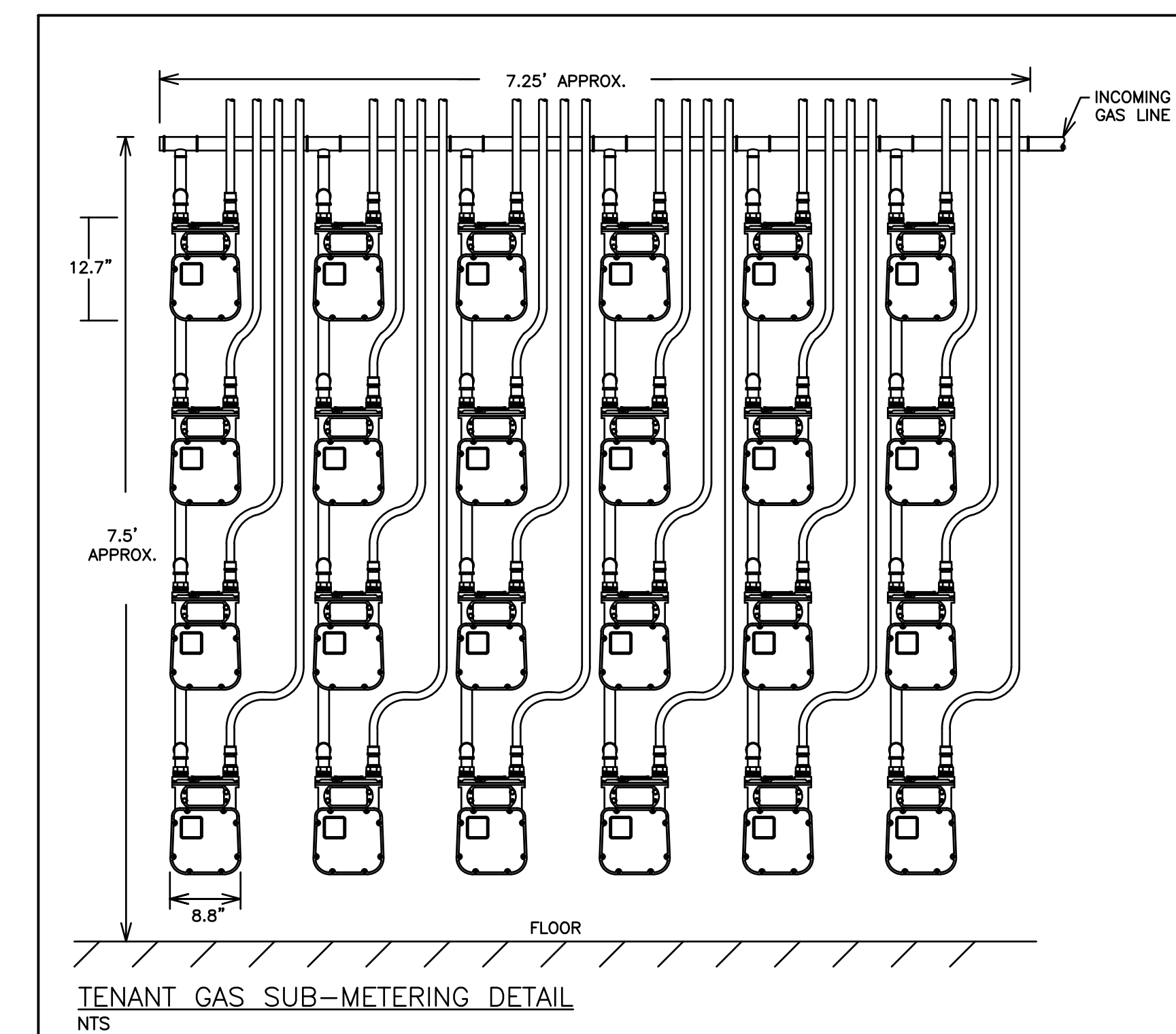
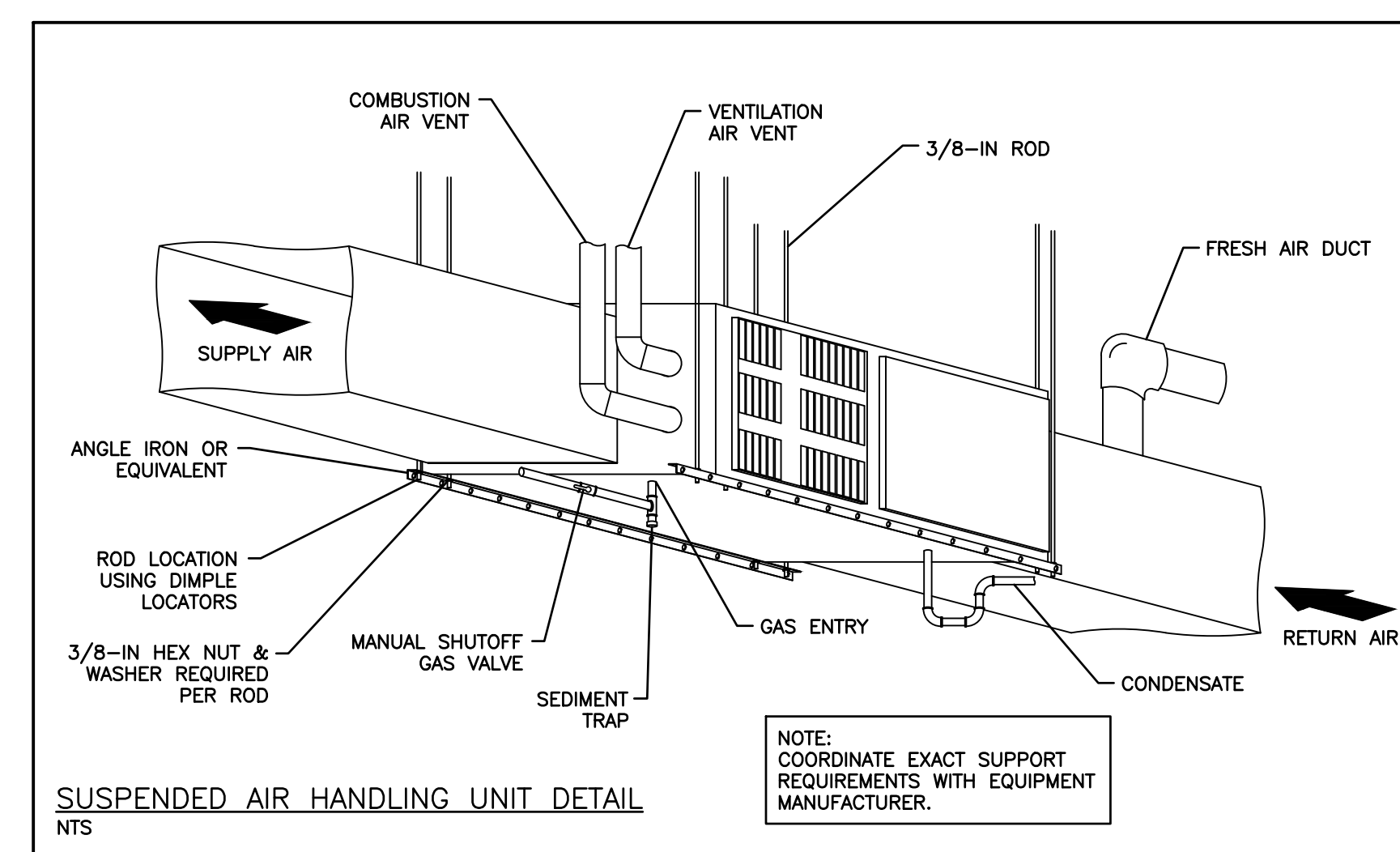
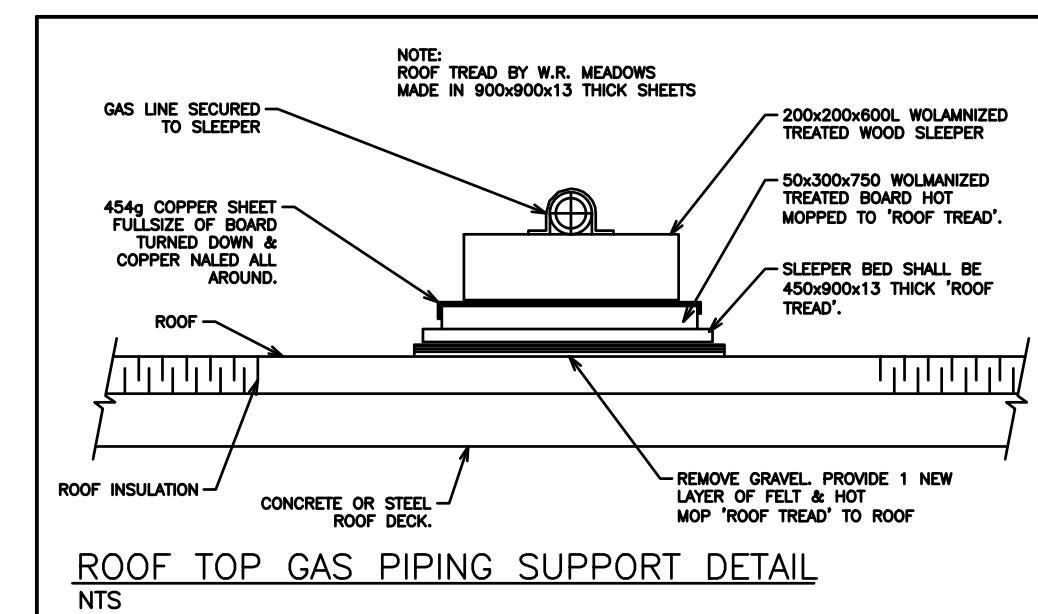
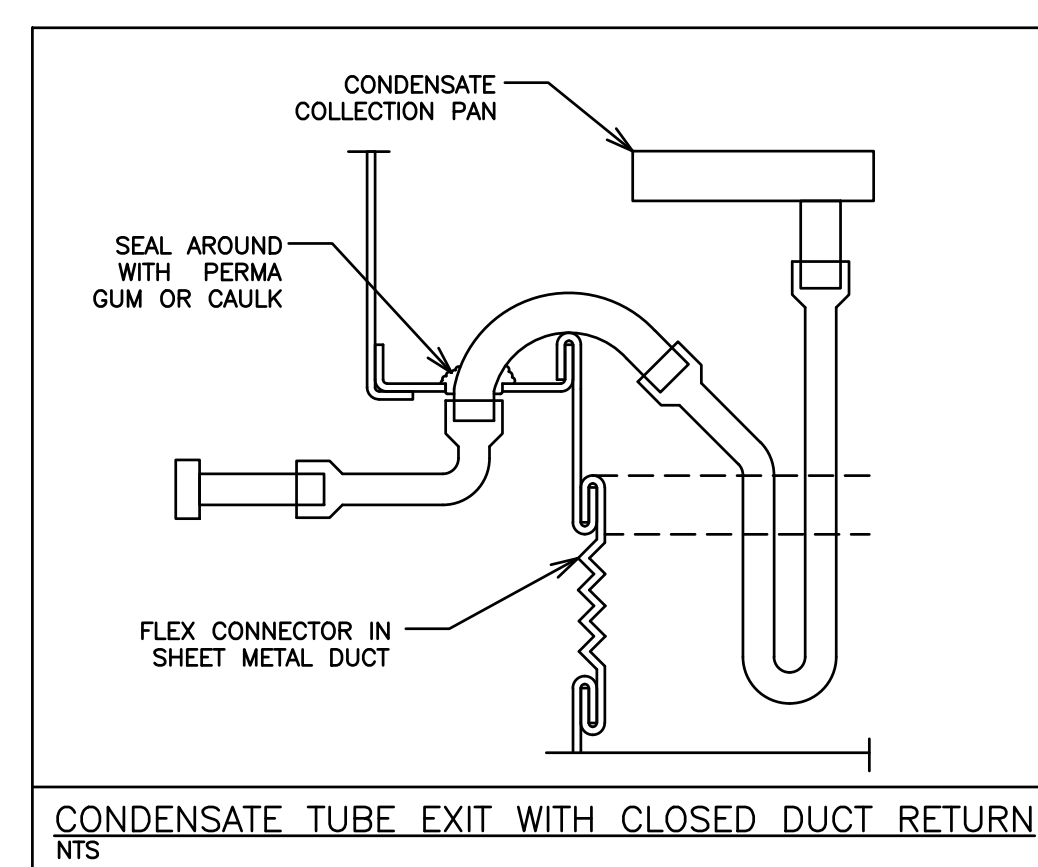
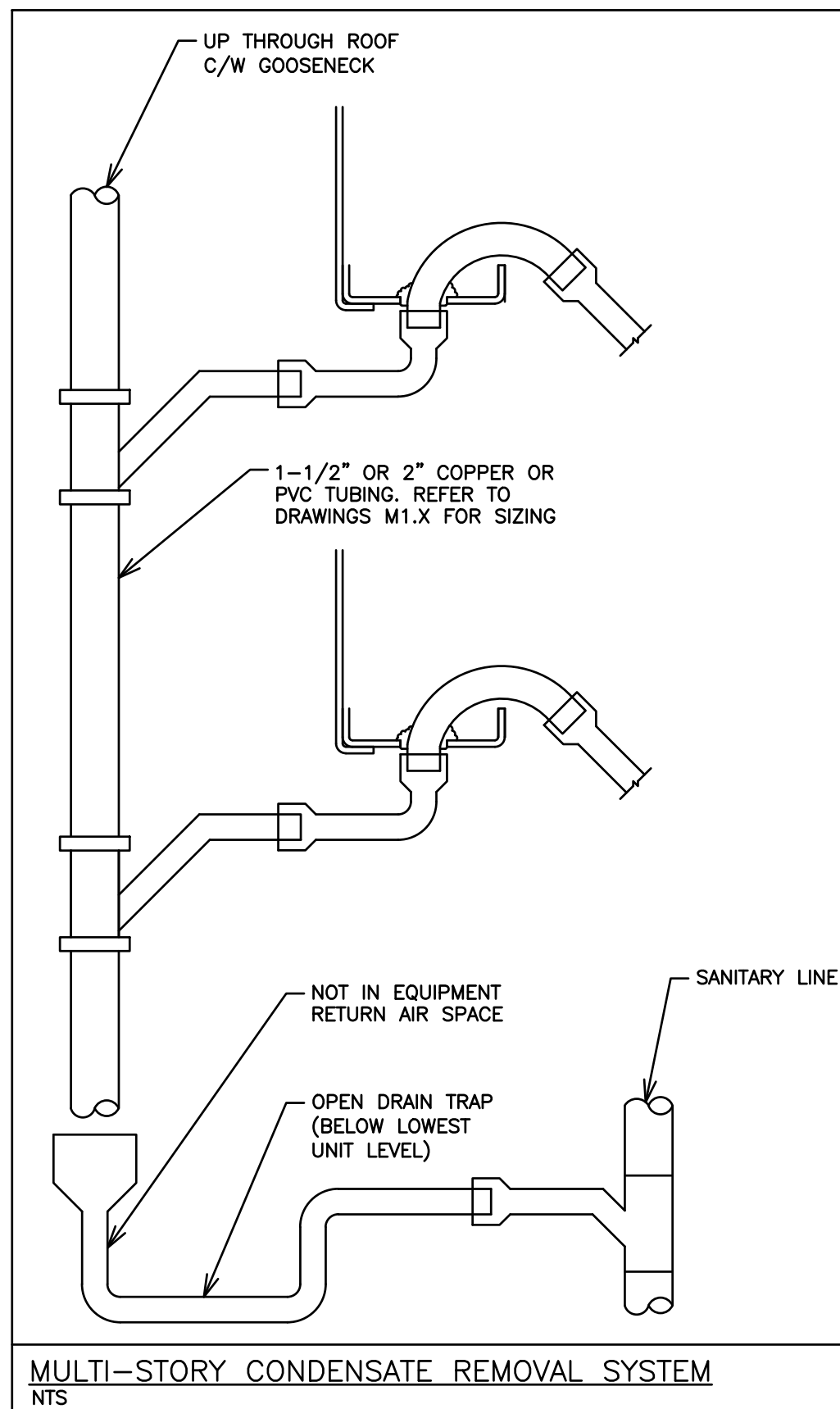
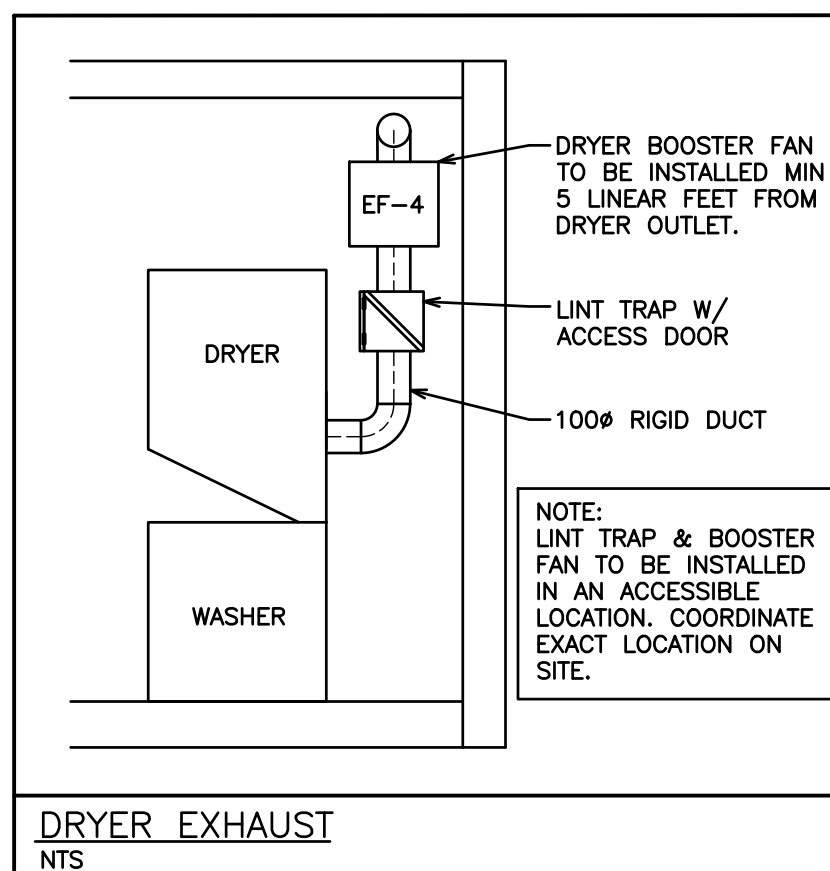
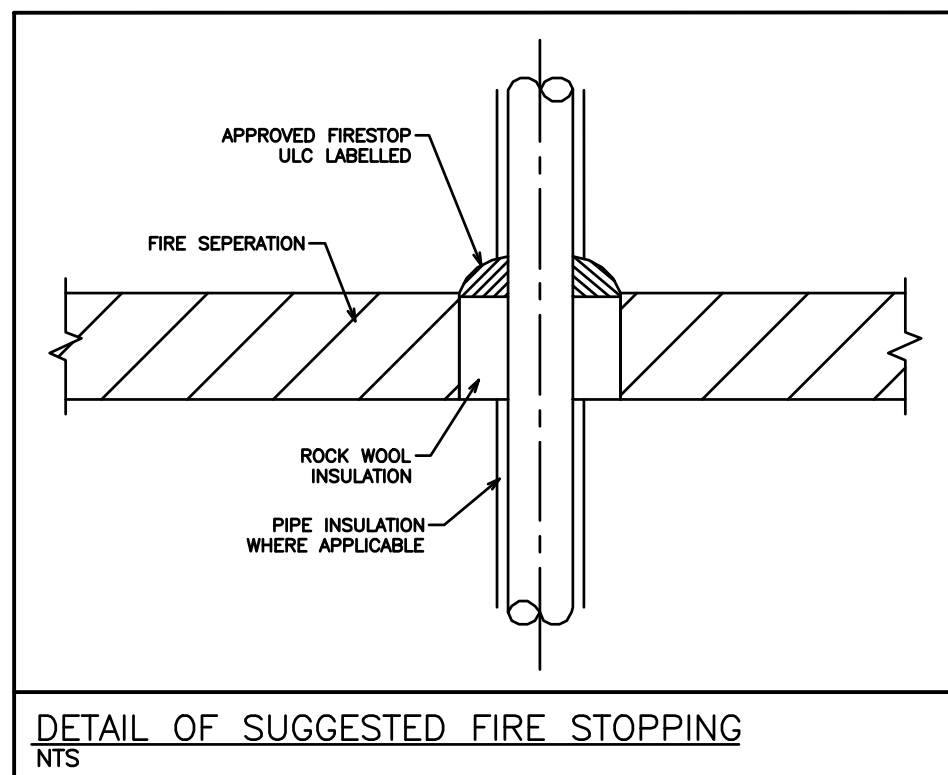
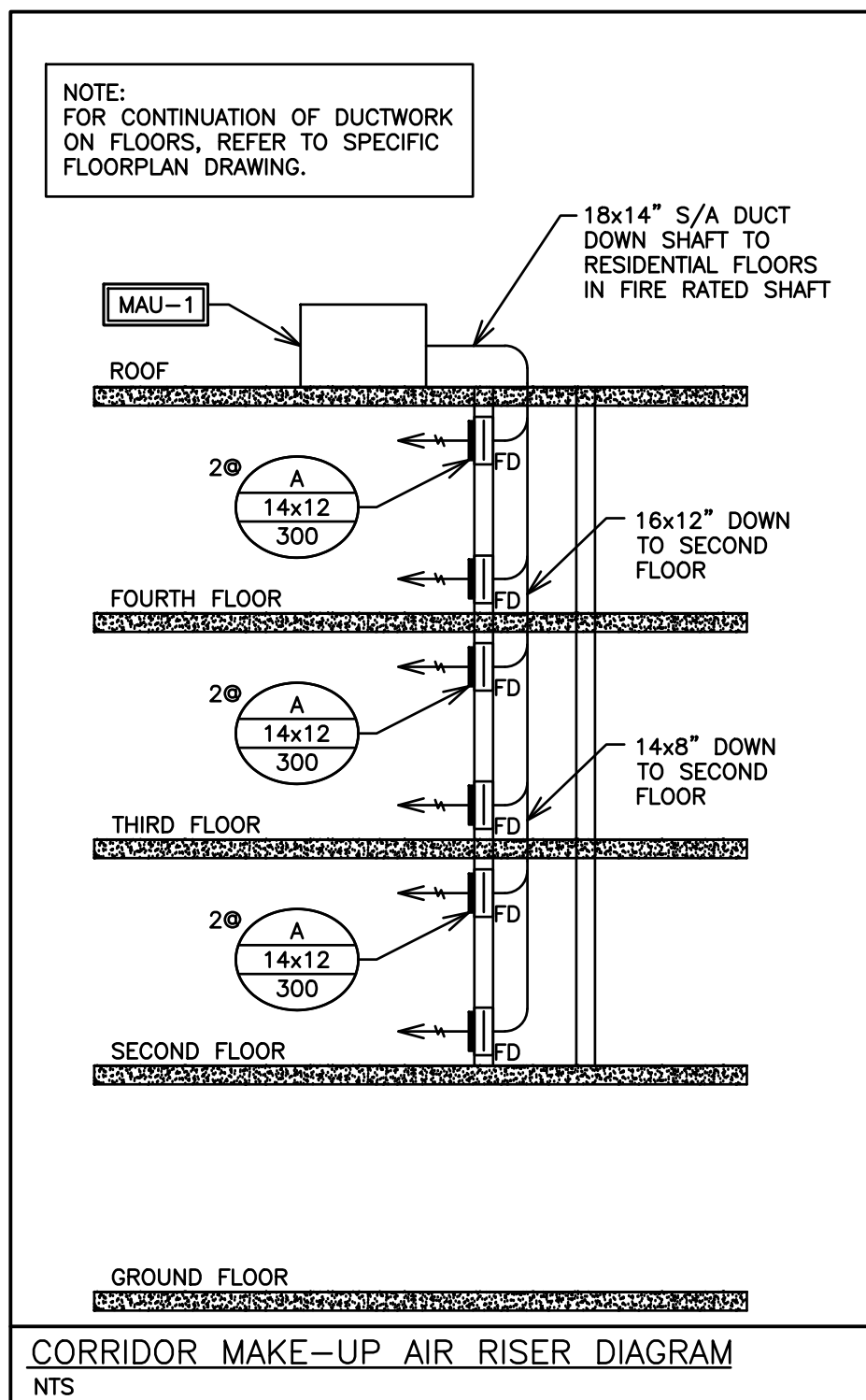


SCALE:	3/16" = 1'	PROJECT NO.	115147
DRAWN BY:	J.T.C.	DRAWING NO.	M2.6
DESIGN BY:	J.T.C./G.V.W.O.	CAD FILE:	115147 M
CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
DATE:	DECEMBER 2016	SUBMISSION:	PERMIT

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TAG	MANUFACTURER	MODEL	AIR FLOW	MOUNTING	VOLTAGE	CONTROLS	ACCESSORIES
EF-1	GREENHECK	XB-90C	90 CFM	CEILING	120V	SWITCH	BACKDRAFT DAMPER
EF-2	GREENHECK	CSP-A-190	202 CFM	CEILING	120V	TIME CLOCK	BACKDRAFT DAMPER
EF-3	GREENHECK	CSP-A-125	125 CFM	CEILING	120V	TIME CLOCK	BACKDRAFT DAMPER
EF-4	FANTECH	DBF110	100 CFM	INLINE	120V	PRESSURE SWITCH	BACKDRAFT DAMPER

NOTES: ADDITIONAL COSTS INCURRED AS A RESULT OF ANY ALTERNATIVE MODELS ARE AT THE EXPENSE OF THE CONTRACTOR

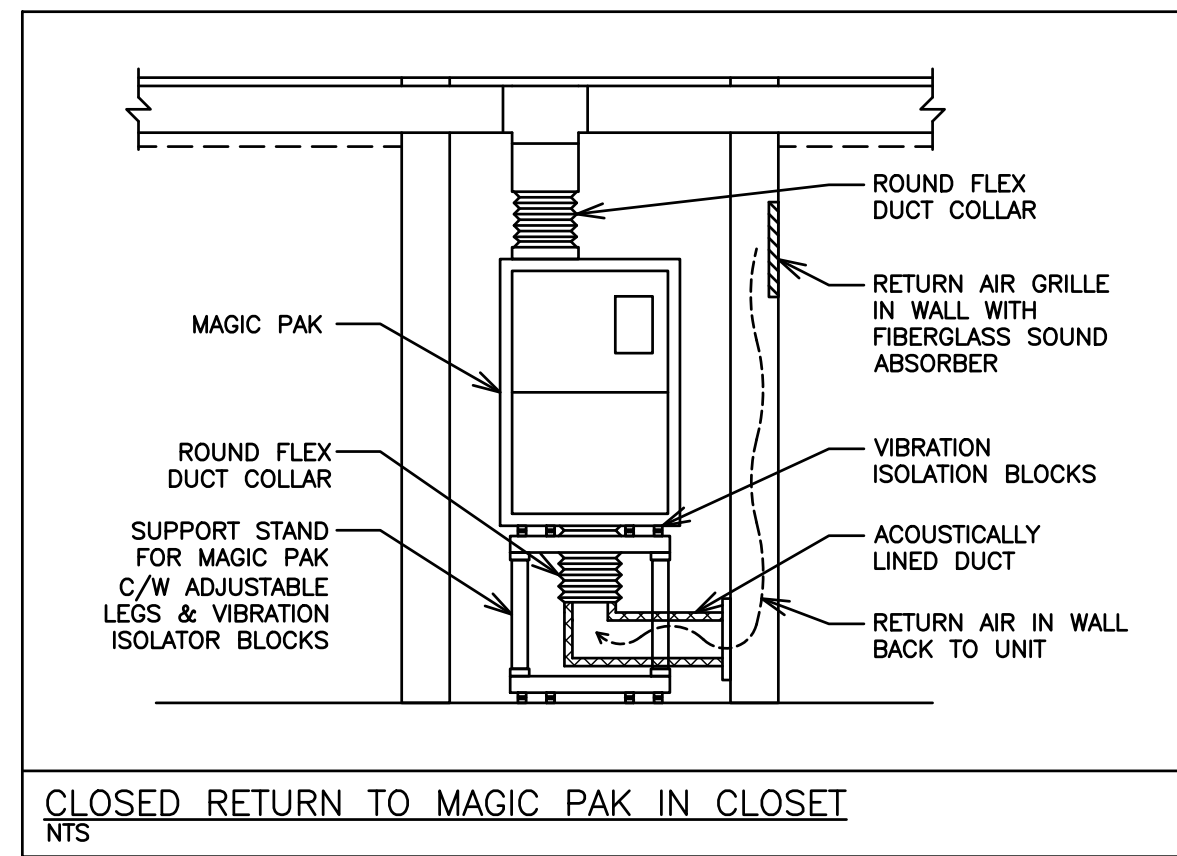
TAG	MANUFACTURER	MODEL	AIR FLOW	COOLING	HEATING INPUT/OUTPUT	ELECTRICAL	WEIGHT	CONTROLS
MAU-1	AAON	RN-010	1800 CFM	5 TONS	210/168 MBH	208V/3PH	1214 LBS	AVERAGING SENSORS, SYSTEM MANAGER TS-II

TAG	MANUFACTURER	MODEL	COOLING	ELECTRICAL	NOTES
CU-1	KEEPRITE	C4A3	5 TONS	208V/1P, 40A	VARIABLE CAPACITY SCROLL COMPRESSOR
CU-2	KEEPRITE	C4A3	3 TONS	208V/1P, 40A	VARIABLE CAPACITY SCROLL COMPRESSOR

TAG	MANUFACTURER	MODEL	AIR FLOW	VOLTAGE	CONTROLS
HRV-1	ZEHNDER	CA350 HRV-W-R	218 cfm @ 0.8" WC	AS REQUIRED	COMFOSENSE CONTROLLER
HRV-2	ZEHNDER	CA200 HRV-W-R	116 cfm @ 0.8" WC	AS REQUIRED	COMFOSENSE CONTROLLER
HRV-3	VENMAR	6LC	560 cfm @ 0.2" WC	AS REQUIRED	INTERLOCK TO FURNACE

TAG	MANUFACTURER	MODEL	AIR FLOW	STATIC	HEATING (INPUT/OUTPUT)	COOLING	VOLTAGE	CONTROLS
AHU-1	MAGIC-PAK	HWC9N3311P18	600 CFM	0.2" W.C.	33/31 MBH	1.5 TONS	AS REQUIRED	7 DAY PROGRAMMABLE THERMOSTAT
AHU-2	KEEPRITE	G9MAE060	2000 CFM	0.1" W.C.	60/58 MBH	SEE CU-1	AS REQUIRED	7 DAY PROGRAMMABLE THERMOSTAT
AHU-3	KEEPRITE	G9MAE060	1200 CFM	0.1" W.C.	60/58 MBH	SEE CU-2	AS REQUIRED	7 DAY PROGRAMMABLE THERMOSTAT

TAG	MANUFACTURER	MODEL	DESCRIPTION	FINISH/COLOUR	NOTES
A	PRICE	520D-F-S-A	LOUVERED FACE SUPPLY C/W DAMPER	TO BE DETERMINED BY ARCHITECT	SHOWN ON DRAWINGS
B	PRICE	535D-F-L-A	LOUVERED FACE RETURN	TO BE DETERMINED BY ARCHITECT	SHOWN ON DRAWINGS
L	VENTEX	2425	STORMPROOF INTAKE LOUVER	TO BE DETERMINED BY ARCHITECT	SHOWN ON DRAWINGS
M	VENTEX	2415	STORMPROOF EXHAUST LOUVER	TO BE DETERMINED BY ARCHITECT	SHOWN ON DRAWINGS



TAG	QTY	GAS INPUT	SUB-TOTAL
MAU-1	1	210 MBH	210 MBH
AHU-1	18	33 MBH	594 MBH
AHU-2	1	60 MBH	60 MBH
AHU-3	4	60 MBH	240 MBH
TOTAL:		1104 MBH	

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
4	ISSUED FOR PRICING	DEC 13	G.O.	G.V.W.O.
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28	G.O.	G.V.W.O.
2	ISSUED FOR COORDINATION	SEP 29	G.O.	G.V.W.O.
1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC NOTES & DETAILS

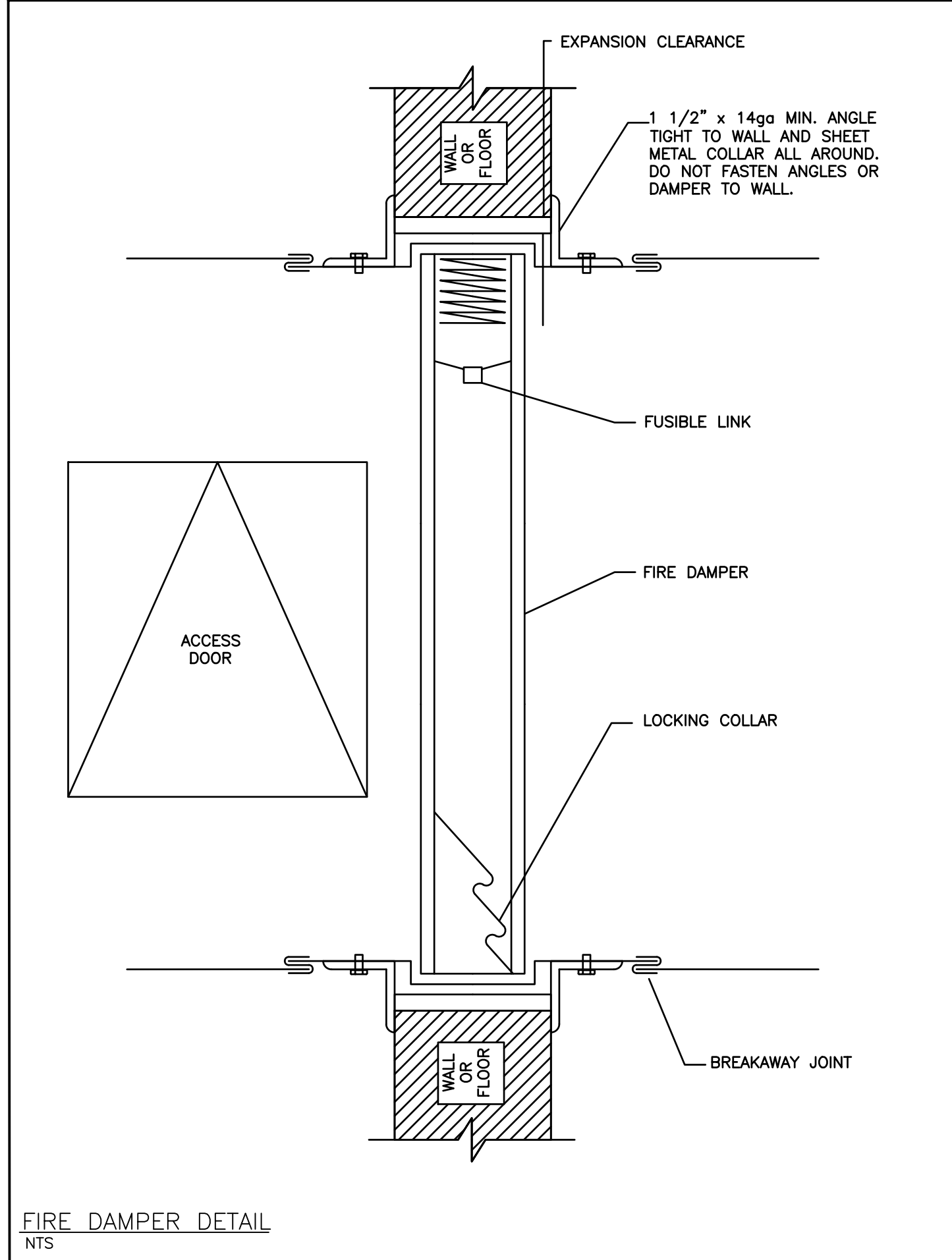
D.G. Biddle & Associates Limited
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96 KING STREET EAST • OSHAWA, ON L1H 1B6
PHONE (905)576-8500 • FAX (905)576-9730
INFO@DGBIDDLE.COM

SCALE: 3/16" = 1'
DRAWN BY: J.T.C.
DESIGN BY: J.T.C./G.V.W.O.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016

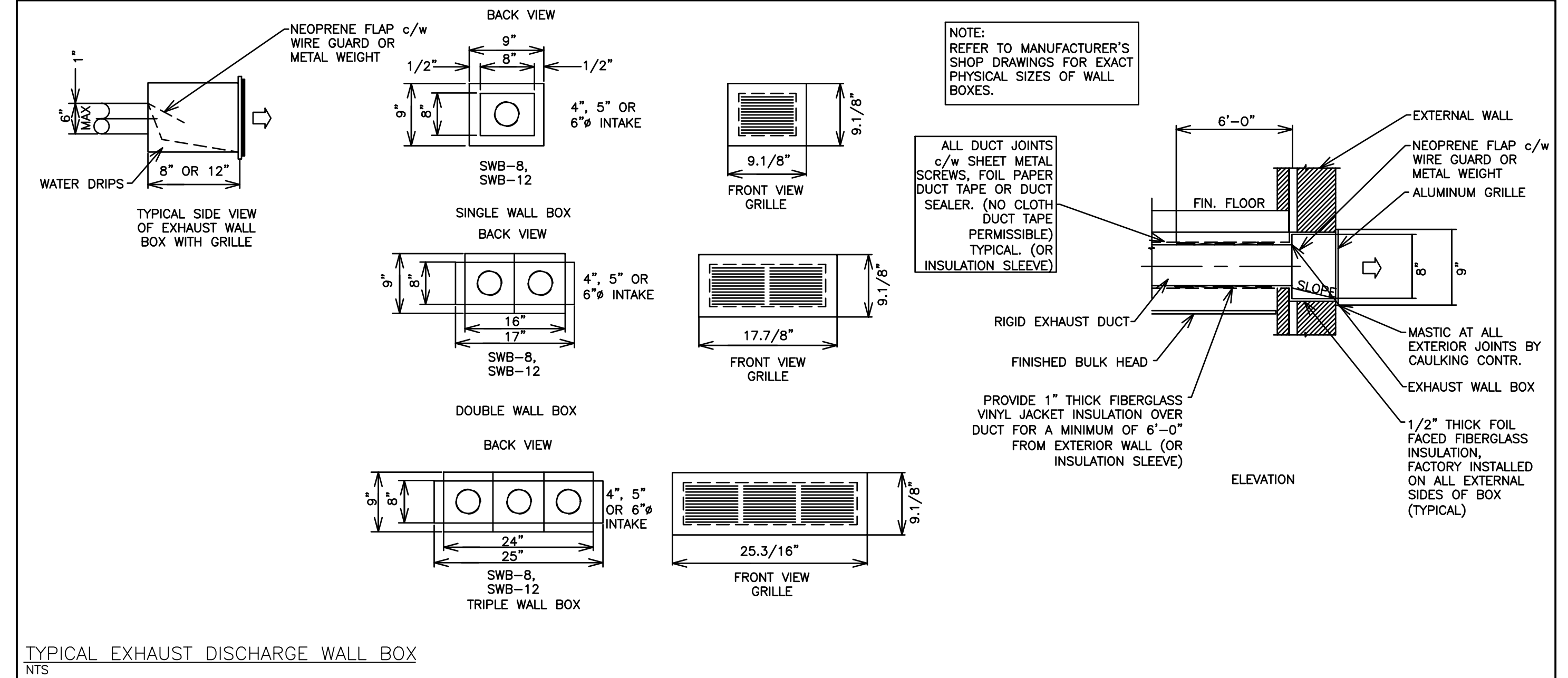
PROJECT NO. 115147
DRAWING NO. M2.7
CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT

HVAC NOTES

1. GENERAL
 - 1.1. COORDINATE EXACT LOCATION OF GRILLES AND DIFFUSERS WITH REFLECTED CEILING PLAN OR LIGHTING PLAN IF AVAILABLE. LIGHTING LOCATIONS TAKE PRIORITY.
 - 1.2. CONFIRM EXACT LOCATION OF THERMOSTATS/SENSORS WITH OWNER. MOUNT THERMOSTATS/SENSORS AT 4' ABOVE FINISHED FLOOR. ENSURE THERMOSTAT/SENSOR LOCATIONS WILL NOT BE AFFECTED BY DIRECT SUNLIGHT, COLD WALLS OR MILLWORK.
 - 1.3. PROVIDE 4" FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO AIR HANDLING UNITS.
 - 1.4. PROVIDE ACOUSTIC INSULATION IN FIRST 5' OF SUPPLY AND RETURN AIR DUCTS OFF AIR HANDLING UNITS AND AS INDICATED ON DRAWINGS.
 - 1.5. PROVIDE EXTERNAL INSULATION ON ALL SUPPLY AIR DUCTS AND ON ALL EXHAUST DUCTS WITHIN 10' OF OUTSIDE WALLS AND ROOF.
 - 1.6. BRANCH DUCTWORK TO DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK.
 - 1.7. PROVIDE TURNING VANES IN ALL SQUARE ELBOWS FOR SUPPLY AIR DUCTS.
 - 1.8. FLEXIBLE DUCT SHALL BE MAXIMUM 10' IN LENGTH AND SHALL BE SECURELY FASTENED TO DUCTS AND DIFFUSERS. PROVIDE HANGERS AND FLEXIBLE DUCTWORK WITHOUT SHARP 90'S, SAGGING, OR CRUSHING OF DUCT.
 - 1.9. PROVIDE TRAP AT OUTLET OF DRAIN FOR ROOFTOP HVAC EQUIPMENT.
 - 1.10. PROVIDE FIRE STOPPING AROUND OPENINGS THROUGH FIRE SEPARATIONS.
2. FIRE DAMPERS
 - 2.0. PROVIDE FIRE DAMPERS AT ALL FIRE SEPARATIONS. FIRE DAMPERS SHALL BE C/W LINKAGE OUT OF THE AIR STREAM. FIRE DAMPER RATING TO MATCH THE RATING OF THE SEPARATION CROSSED. INSTALLATION MUST CONFORM TO LATEST NFPA/CSA 90A SPECIFICATIONS. ONLY USE ULC APPROVED EQUIPMENT. PROVIDE DUCT ACCESS DOORS AND BREAK AWAY FLANGES FOR ALL FIRE DAMPERS IN CONFORMANCE WITH CODE AND INSTALLATION INSTRUCTIONS.
3. TESTS AND BALANCING
 - 3.1. BALANCING DAMPERS SHALL BE INSTALLED AT ALL TAKE-OFFS FROM BRANCH DUCTS, AND ALL BRANCH DUCT CONNECTIONS TO MAIN DUCTS. BALANCING DAMPERS SHALL BE MANUALLY OPERATED OPPOSED BLADE TYPE, SPLITTER TYPE OR BUTTERFLY TYPE, COMPLETE WITH LOCKING QUADRANT OPERATOR.
 - 3.2. AIR TEST AND BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCING COMPANY. THE AIR BALANCING COMPANY SHALL BE APPROVED BY THE ENGINEER.
 - 3.3. SCOPE OF BALANCING WORK:
 - 3.3.1. ALL LISTED AIR HANDLING SYSTEMS SHALL BE BALANCED TO WITHIN 5% OF THE NOTED DESIGN AIR VOLUMES AS PER PLANS AND SPECIFICATIONS.
 - 3.3.2. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE HVAC SYSTEM FULLY OPERATIONAL TWO WEEKS BEFORE TURNOVER TO THE OWNER. THIS WILL INCLUDE THE REQUIREMENT TO INSTALL CLEAN FILTERS IN ALL RELATED HVAC EQUIPMENT BEFORE TIME OF AIR TESTING AND TO MAKE ALL AIR SYSTEMS FULLY OPERATIONAL.
4. MATERIALS
 - 4.1. DUCTWORK
 - 4.1.1. IN CONFORMANCE WITH SMACNA, ASHRAE, OBC, NFPA 90A
 - 4.1.2. SHEET METAL SHALL BE BEST QUALITY LOCK FORMING GALVANIZED SHEET METAL. GALVANIZING SHALL BE TO ASTM A525 (G90), HAVING A THICKNESS OF 0.054mm AND WEIGHING NOT LESS THAN 0.31kg/m² ON EACH SURFACE.
 - 4.1.3. PROVIDE INSTRUMENTATION TEST PORTS IN DUCTS FOR PILOT TUBE INSERTION WITH CAM-ACTION HANDLE, MOULDED NEOPRENE GASKET AND EXPANSION PLUG, ZINC COATED STEEL CONSTRUCTION.
 - 4.2. FLEXIBLE CONNECTIONS
 - 4.2.1. PROVIDE FLEXIBLE CONNECTIONS AT AIR HANDLING UNITS WITH UL APPROVED FABRIC OF 6" MINIMUM WIDTH AND WEIGHING NOT LESS THAN 0.8136kg/m².
 - 4.3. INSULATION
 - 4.3.1. PROVIDE 1" INTERNAL ACOUSTIC INSULATION ON:
 - 4.3.1.1. THE FIRST 5' OFF SUPPLY AND RETURN DUCTS OFF ALL AIR HANDLING UNITS.
 - 4.3.2. PROVIDE 1" EXTERNAL INSULATION ON:
 - 4.3.2.1. ALL INDOOR & OUTDOOR REFRIGERATION PIPING
 - 4.3.2.2. ALL SUPPLY AIR DUCTS WHICH ARE NOT LOCATED IN A RETURN AIR PLENUM.
 - 4.3.2.3. EXHAUST DUCTS THROUGH ATTICS AND 10' BACK FROM WALL
 - 4.3.3. PROVIDE 2" EXTERNAL INSULATION ON:
 - 4.3.3.1. ALL SUPPLY AND RETURN AIR DUCTS THROUGH ATTICS OR UN-INSULATED AREAS
5. CONTROL WIRING
 - 5.1. ALL CONTROL WIRING SHALL BE RUN PARALLEL TO BUILDING LINES AND TIGHT TO ROOF DECK OR WALLS.
 - 5.2. ALL CONCEALED INDOOR CONTROL WIRING SHALL BE RUN IN LVT.
 - 5.3. ALL EXPOSED INDOOR CONTROL WIRING IN UNFINISHED AREAS, T-BAR CEILING SPACES, ATTICS AND CRAWL SPACES SHALL BE RUN IN EMT CONDUIT WITH FINAL CONNECTION IN BX TO EQUIPMENT/COMPONENTS.
 - 5.4. ALL OUTDOOR CONTROL WIRING SHALL BE RUN IN LIQUIDTIGHT.
 - 5.5. FLEXIBLE CABLE MUST BE STRAPPED TO SUPPORT WITHIN 12" OF TERMINATION BOX OR EQUIPMENT.



FIRE DAMPER DETAIL
NTS



TYPICAL EXHAUST DISCHARGE WALL BOX
NTS

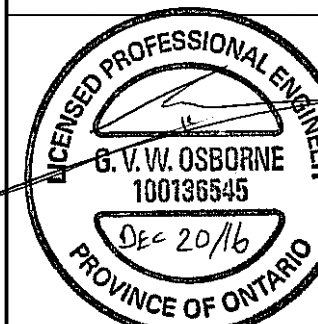
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REVISIONS

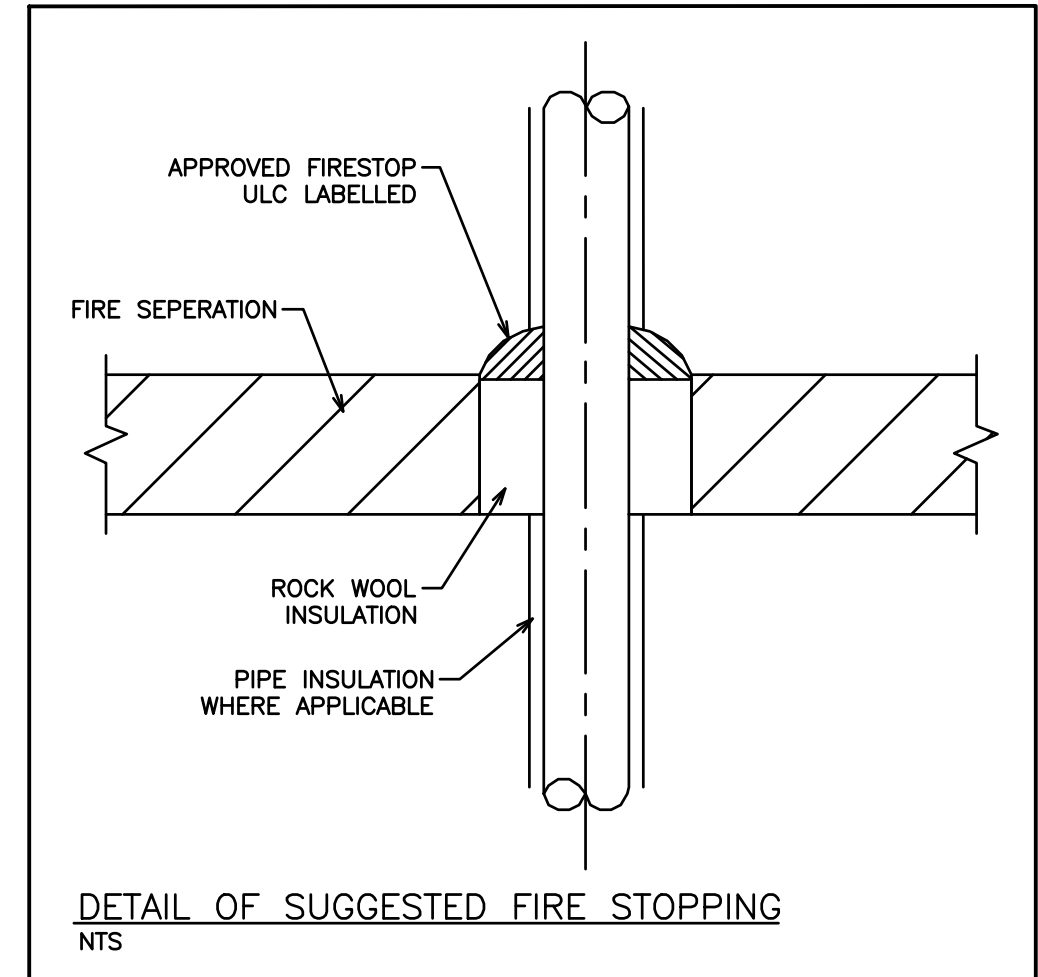
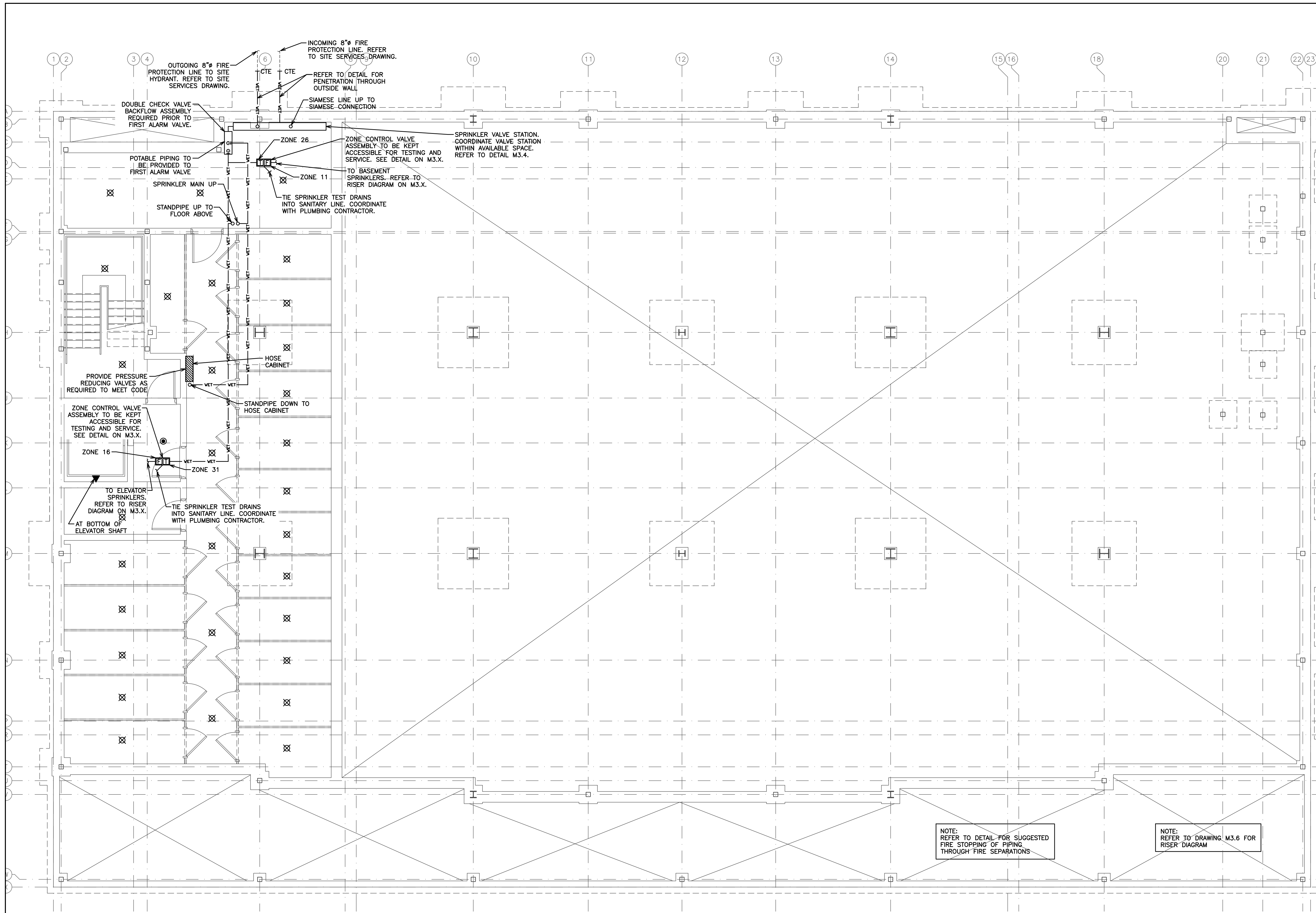
496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL HVAC
NOTES & DETAILS

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SCALE:	3/16" = 1'	PROJECT NO.	115147
DRAWN BY:	J.T.C.	DRAWING NO.	M2.8
DESIGN BY:	J.T.C./G.V.W.O.	CHECKED BY:	G.V.W.O.
CHECKED BY:	G.V.W.O.	DATE:	DECEMBER 2016
DATE:	DECEMBER 2016	CAD FILE:	115147 M
		PLOT DATE:	12/20/16
		SUBMISSION:	PERMIT



NOTE:
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NOTE:
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2. DESIGN DRAWINGS TO INCLUDE ALL PIPING COMPLETE WITH SIZES, VALVES, ASSOCIATED COMPONENTS AND HYDRAULIC CALCULATIONS.

NOTE:
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2. DESIGN AND INSTALLATION OF BUILDING STANDPIPE SYSTEM SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF NFPA 14-2010 EDITION AND OBC 2012 EDITION INCLUDING LATEST AMENDMENTS.
3. PROVIDE SPRINKLER AND STAND PIPE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FOR OUR REVIEW PRIOR TO INSTALLATION OF PIPING FOR THESE SYSTEMS.

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NO.	REVISION	DATE	BY	APPROVED

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL SPRINKLER BASEMENT LAYOUT

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	SCALE:	3/16" = 1'	PROJECT NO.	115147
	DRAWN BY:	B.C.A.	DRAWING NO.	M3.1
	DESIGN BY:	B.C.A./G.V.W.O.	CAD FILE:	115147 M
	CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
	DATE:	DECEMBER 2016	SUBMISSION:	PERMIT

NOTE:
ENTIRE BUILDING SHALL BE PROTECTED BY WITH SPRINKLER AND STANDPIPE SYSTEM.

NOTE:
COORDINATE SHARED SPACES WITH GAS PIPING, HVAC DUCTWORK AND PLUMBING PIPING.

NOTE:
CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THRUST BLOCKS BASED ON FINAL PIPING LAYOUT

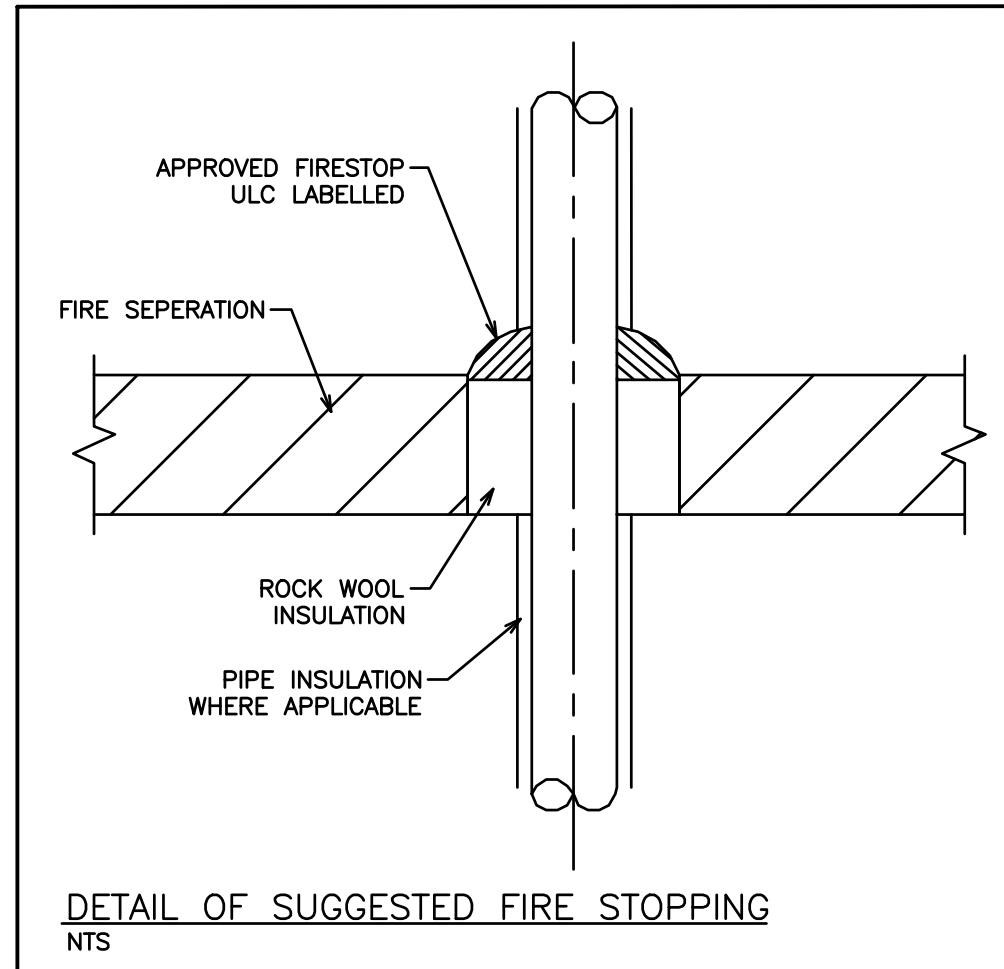
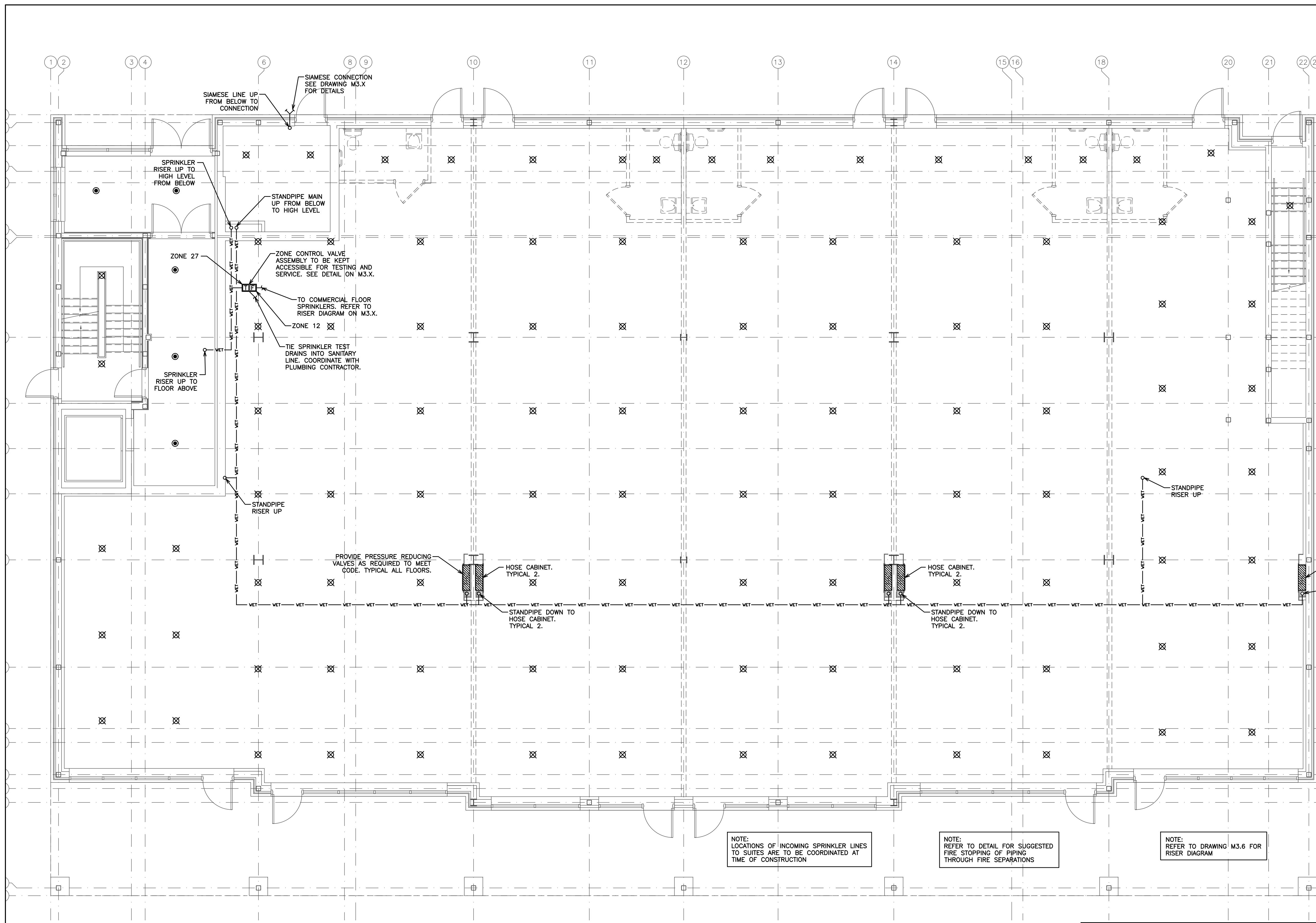
NOTE:
SPRINKLER SYSTEM IS TO BE INSTALLED OR EXTENDED IN CONFORMANCE WITH THE ONTARIO BUILDING CODE DIVISION B 3.2.5. AND NFPA 13-2007.

NOTE:
BACKFLOW PREVENTION DEVICES TO PROTECT A POTABLE WATER SYSTEM FROM CONTAMINATION SHALL BE SELECTED, INSTALLED AND FIELD TESTED IN ACCORDANCE WITH CAN/CSA-B64.10, "BACKFLOW PREVENTION DEVICES - SELECTION, INSTALLATION, MAINTENANCE AND FIELD TESTING".

NOTE:
REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

NOTE:
REFER TO DRAWING M3.6 FOR RISER DIAGRAM

SPRINKLER LEGEND	
— VET — VET —	SPRINKLER LINE (WET)
⊙	SEMI-RECESSED PENDENT SPRINKLER HEAD C/W ESCUTCHEON
⊗	UPRIGHT SPRINKLER HEAD IN UNFINISHED EXPOSED PENDENT IN DRYWALL CEILING
▲	SIDEWALL SPRINKLER HEAD



NOTE:
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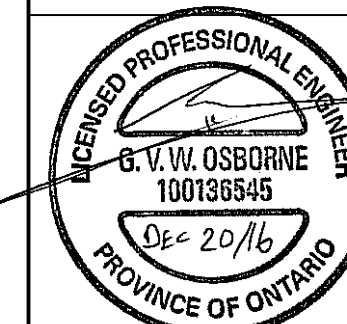
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3. PROVIDE SPRINKLER AND STAND PIPE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FOR OUR REVIEW PRIOR TO INSTALLATION OF PIPING FOR THESE SYSTEMS.

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496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER
**MECHANICAL SPRINKLER
GROUND FLOOR LAYOUT**

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PROJECT NO. 115147
DRAWING NO. M3.2
SCALE: 3/16" = 1'
DRAWN BY: B.C.A.
DESIGN BY: B.C.A./G.V.W.O.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016
CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT



SPRINKLER LEGEND	
— VET — VET —	SPRINKLER LINE (WET)
●	SEMI-RECESSED PENDENT SPRINKLER HEAD C/W ESCUTCHEON
⊗	UPRIGHT SPRINKLER HEAD IN UNFINISHED EXPOSED PENDENT IN DRYWALL CEILING
▲	SIDEWALL SPRINKLER HEAD

NOTE:
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NOTE:
COORDINATE SHARED SPACES WITH GAS PIPING, HVAC DUCTWORK AND PLUMBING PIPING.

NOTE:
TYPICAL BULKHEADS DETAILS ARE FOR ILLUSTRATION ONLY. FINAL SITE COORDINATION BETWEEN ALL TRADES WILL DETERMINE ACTUAL ROUTING.

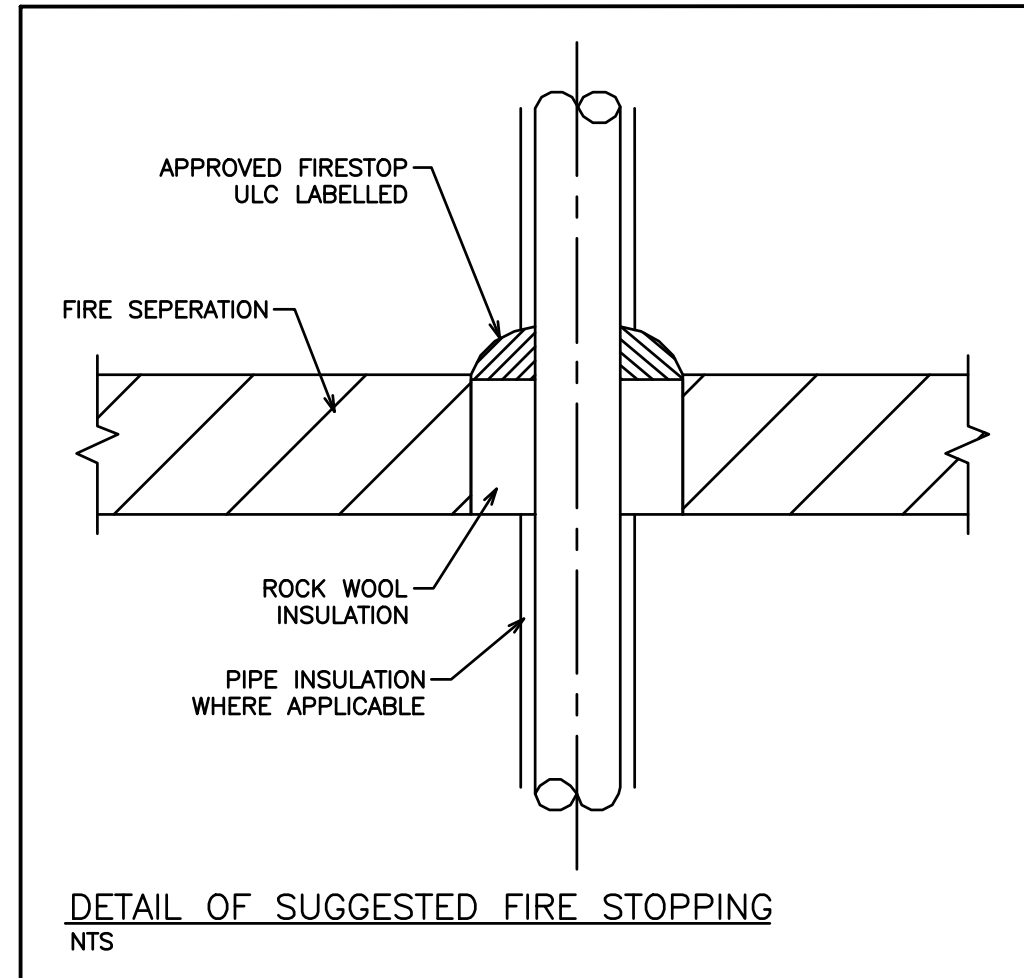
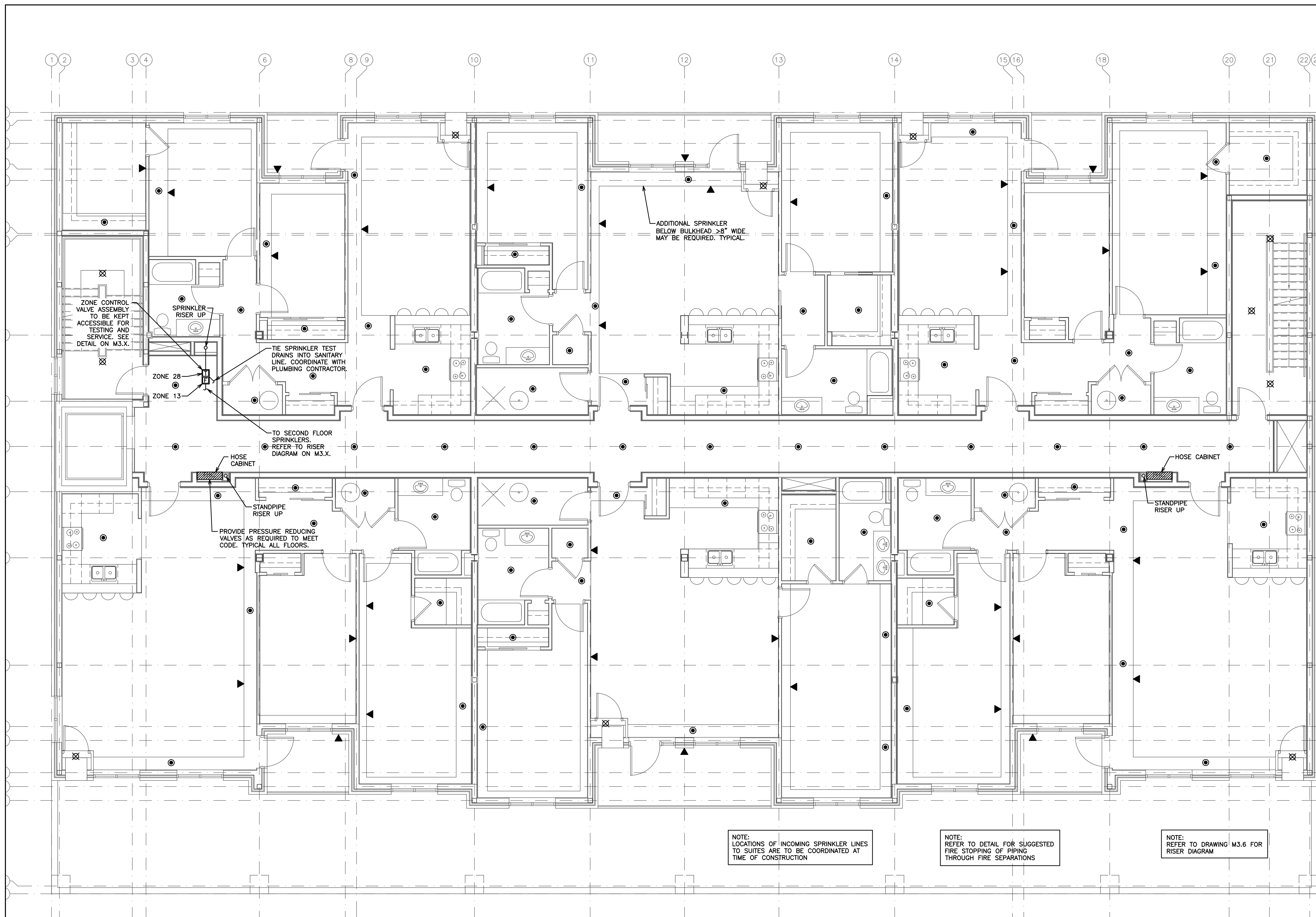
NOTE:
SPRINKLER SYSTEM IS TO BE INSTALLED OR EXTENDED IN CONFORMANCE WITH THE ONTARIO BUILDING CODE DIVISION B 3.2.5. AND NFPA 13-2007.

NOTE:
NO EXTRA TO BE PROVIDED FOR ADDITIONAL SPRINKLER HEAD REQUIREMENTS. SPRINKLER HEADS SHOWN FOR SCHEMATIC PURPOSES ONLY. THE SPRINKLER CONTRACTOR IS REQUIRED TO DESIGN AND INSTALL A COMPLETE SPRINKLER SYSTEM.

NOTE:
LOCATIONS OF INCOMING SPRINKLER LINES TO SUITES ARE TO BE COORDINATED AT TIME OF CONSTRUCTION

NOTE:
REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

NOTE:
REFER TO DRAWING M3.6 FOR RISER DIAGRAM



NOTE:
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▲	SIDEWALL SPRINKLER HEAD

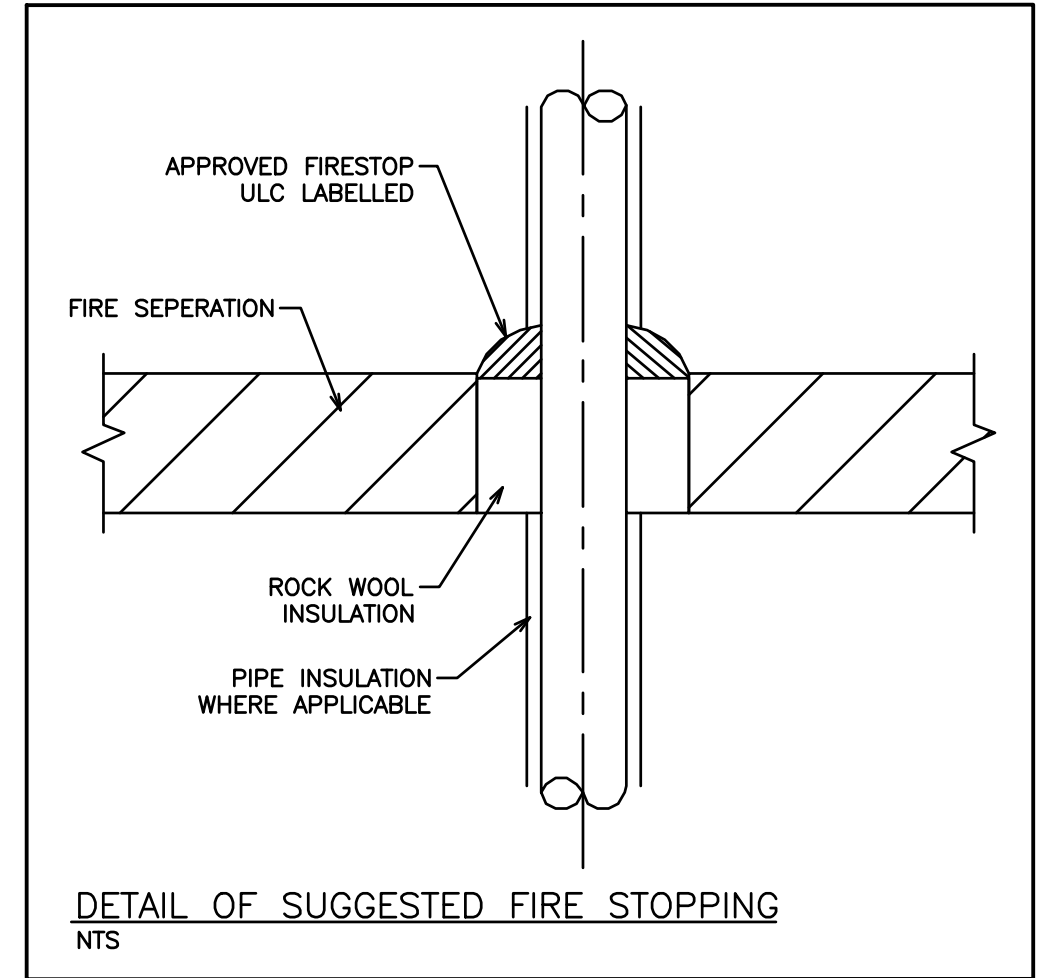
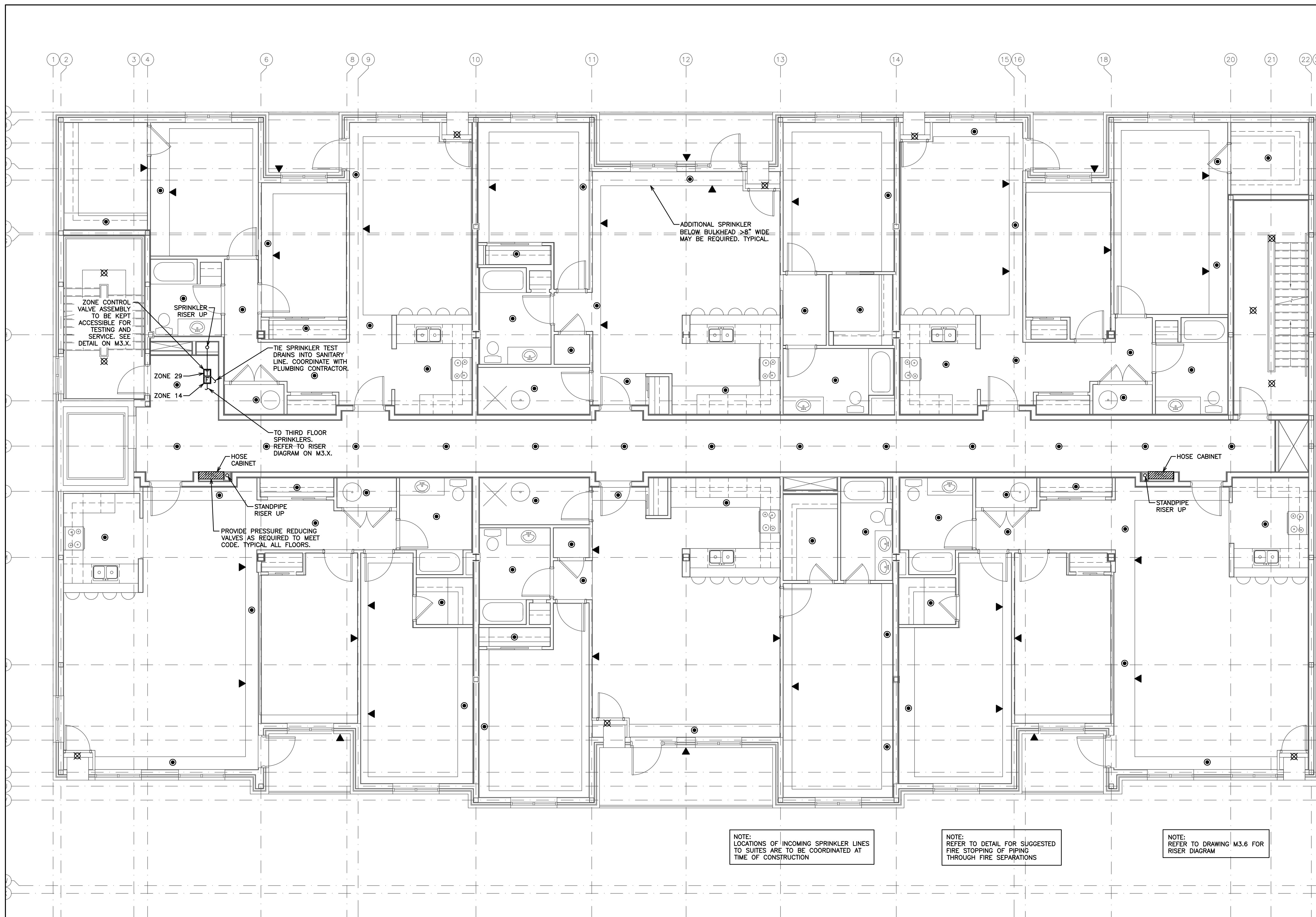
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496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER
**MECHANICAL SPRINKLER
SECOND FLOOR LAYOUT**

D.G. Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA, ON L1H 1B6
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PROJECT NO. 115147
DRAWING NO. M3.3
SCALE: 3/16" = 1'
DRAWN BY: B.C.A.
DESIGN BY: B.C.A./G.V.W.O.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016
CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT

G.V.W. OSBORNE
100136545
Dec 20/16
PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO



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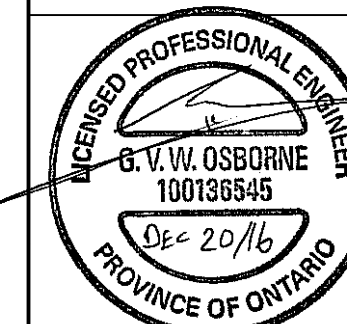
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NO.	REVISION	DATE	BY	APPROVED

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

MECHANICAL SPRINKLER THIRD FLOOR LAYOUT

D.G. Biddle & Associates Limited
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PROJECT NO. 115147
DRAWING NO. M3.4
SCALE: 3/16" = 1'
DRAWN BY: B.C.A.
DESIGN BY: B.C.A./G.V.W.O.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016
CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT



SPRINKLER LEGEND	
— VET — VET —	SPRINKLER LINE (WET)
●	SEMI-RECESSED PENDENT SPRINKLER HEAD C/W ESCUTCHEON
⊗	UPRIGHT SPRINKLER HEAD IN UNFINISHED EXPOSED PENDENT IN DRYWALL CEILING
▲	SIDEWALL SPRINKLER HEAD

NOTE:
ENTIRE BUILDING SHALL BE PROTECTED BY WITH SPRINKLER AND STANDPIPE SYSTEM.

NOTE:
COORDINATE SHARED SPACES WITH GAS PIPING, HVAC DUCTWORK AND PLUMBING PIPING.

NOTE:
TYPICAL BULKHEADS DETAILS ARE FOR ILLUSTRATION ONLY. FINAL SITE COORDINATION BETWEEN ALL TRADES WILL DETERMINE ACTUAL ROUTING.

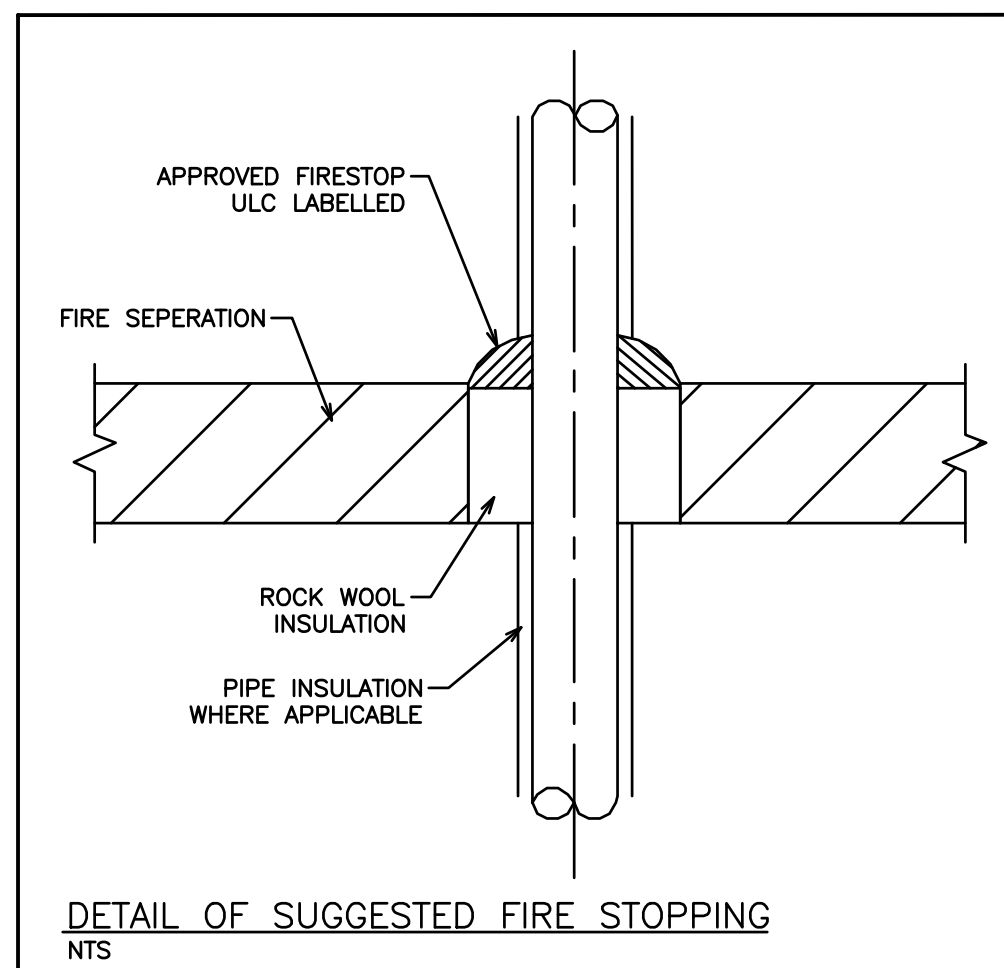
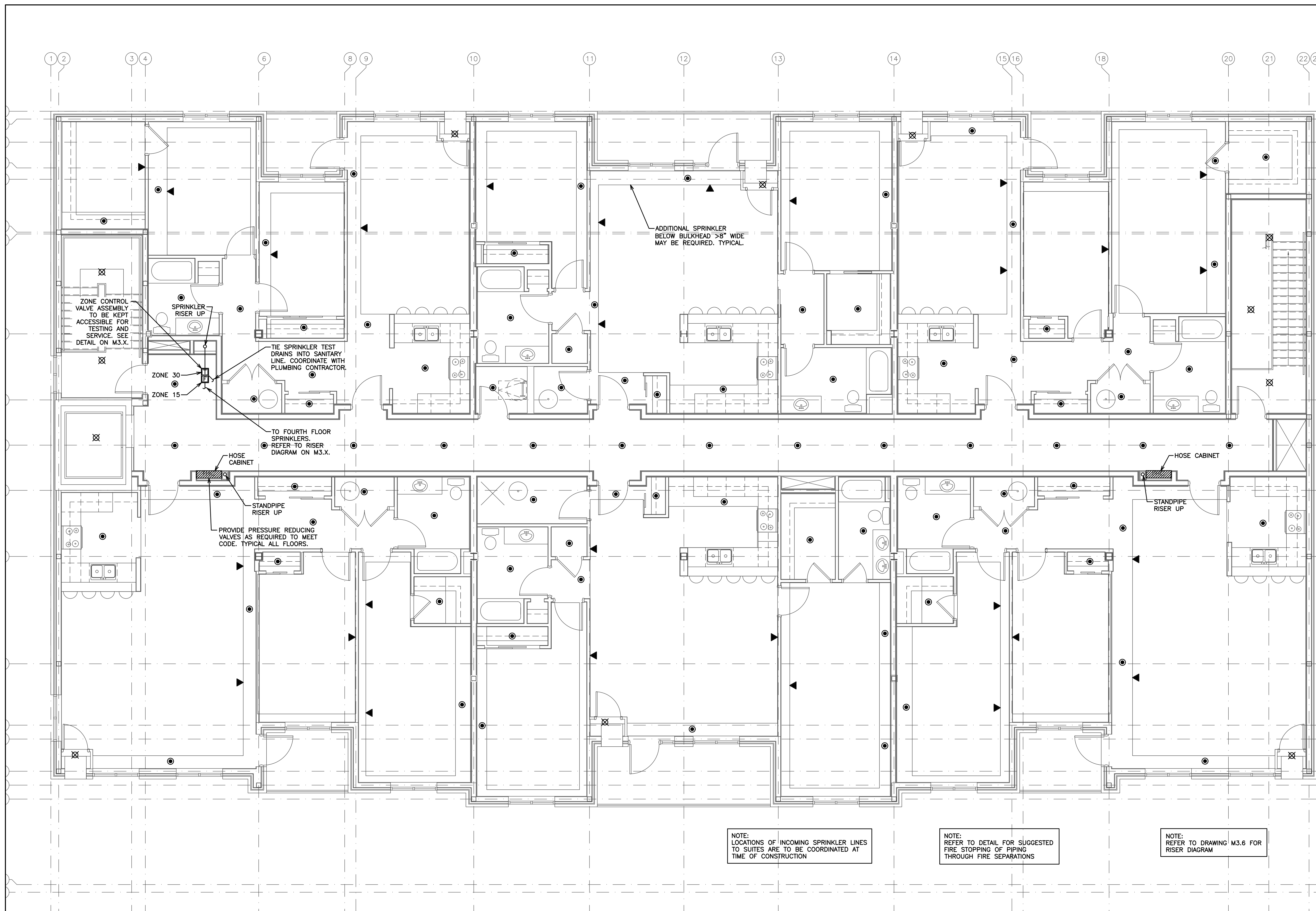
NOTE:
SPRINKLER SYSTEM IS TO BE INSTALLED OR EXTENDED IN CONFORMANCE WITH THE ONTARIO BUILDING CODE DIVISION B 3.2.5. AND NFPA 13-2007.

NOTE:
NO EXTRA TO BE PROVIDED FOR ADDITIONAL SPRINKLER HEAD REQUIREMENTS. SPRINKLER HEADS SHOWN FOR SCHEMATIC PURPOSES ONLY. THE SPRINKLER CONTRACTOR IS REQUIRED TO DESIGN AND INSTALL A COMPLETE SPRINKLER SYSTEM.

NOTE:
LOCATIONS OF INCOMING SPRINKLER LINES TO SUITES ARE TO BE COORDINATED AT TIME OF CONSTRUCTION

NOTE:
REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

NOTE:
REFER TO DRAWING M3.6 FOR RISER DIAGRAM



NOTE:
TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.

NOTE:
1. SPRINKLER HEAD LAYOUT SHOWN FOR SCHEMATIC PURPOSES ONLY. THE SPRINKLER CONTRACTOR IS REQUIRED TO DESIGN AND INSTALL A COMPLETE SPRINKLER SYSTEM IN CONFORMANCE WITH NFPA 13-2012 UNDER BASE CONTRACT.
2. DESIGN DRAWINGS TO INCLUDE ALL PIPING COMPLETE WITH SIZES, VALVES, ASSOCIATED COMPONENTS AND HYDRAULIC CALCULATIONS.

NOTE:
1. DESIGN AND INSTALLATION OF SPRINKLER SYSTEM SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF NFPA 13-2013 EDITION, AND OBC-2012 EDITION.
2. DESIGN AND INSTALLATION OF BUILDING STANDPIPE SYSTEM SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF NFPA 14-2010 EDITION AND OBC 2012 EDITION INCLUDING LATEST AMENDMENTS.
3. PROVIDE SPRINKLER AND STAND PIPE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FOR OUR REVIEW PRIOR TO INSTALLATION OF PIPING FOR THESE SYSTEMS.

NOTE:
LOCATIONS OF INCOMING SPRINKLER LINES TO SUITES ARE TO BE COORDINATED AT TIME OF CONSTRUCTION

NOTE:
REFER TO DETAIL FOR SUGGESTED FIRE STOPPING OF PIPING THROUGH FIRE SEPARATIONS

NOTE:
REFER TO DRAWING M3.6 FOR RISER DIAGRAM

NOTE:
ENTIRE BUILDING SHALL BE PROTECTED BY WITH SPRINKLER AND STANDPIPE SYSTEM.

NOTE:
COORDINATE SHARED SPACES WITH GAS PIPING, HVAC DUCTWORK AND PLUMBING PIPING.

NOTE:
TYPICAL BULKHEADS DETAILS ARE FOR ILLUSTRATION ONLY. FINAL SITE COORDINATION BETWEEN ALL TRADES WILL DETERMINE ACTUAL ROUTING.

NOTE:
SPRINKLER SYSTEM IS TO BE INSTALLED OR EXTENDED IN CONFORMANCE WITH THE ONTARIO BUILDING CODE DIVISION B 3.2.5. AND NFPA 13-2007.

NOTE:
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SPRINKLER LEGEND	
— VET — VET —	SPRINKLER LINE (WET)
●	SEMI-RECESSED PENDENT SPRINKLER HEAD C/W ESCUTCHEON
⊗	UPRIGHT SPRINKLER HEAD IN UNFINISHED EXPOSED PENDENT IN DRYWALL CEILING
▲	SIDEWALL SPRINKLER HEAD

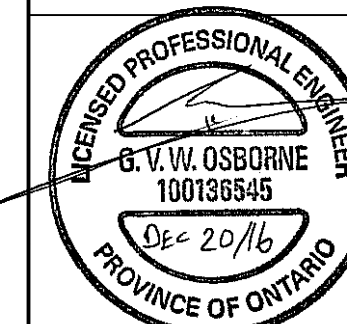
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1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER
**MECHANICAL SPRINKLER
FOURTH FLOOR LAYOUT**

D.G. Biddle & Associates Limited
consulting engineers and planners

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SCALE: 3/16" = 1'
PROJECT NO. 115147
DRAWING NO. M3.5
DRAWN BY: B.C.A.
DESIGN BY: B.C.A./G.V.W.O.
CHECKED BY: G.V.W.O.
DATE: DECEMBER 2016
CAD FILE: 115147 M
PLOT DATE: 12/20/16
SUBMISSION: PERMIT

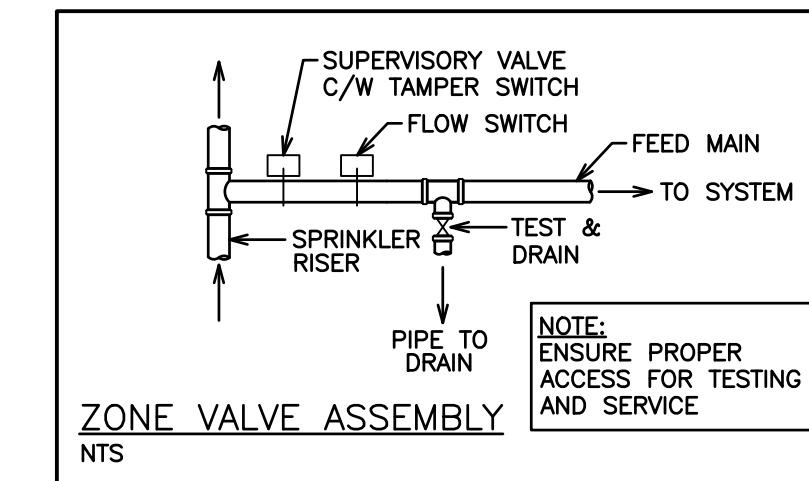
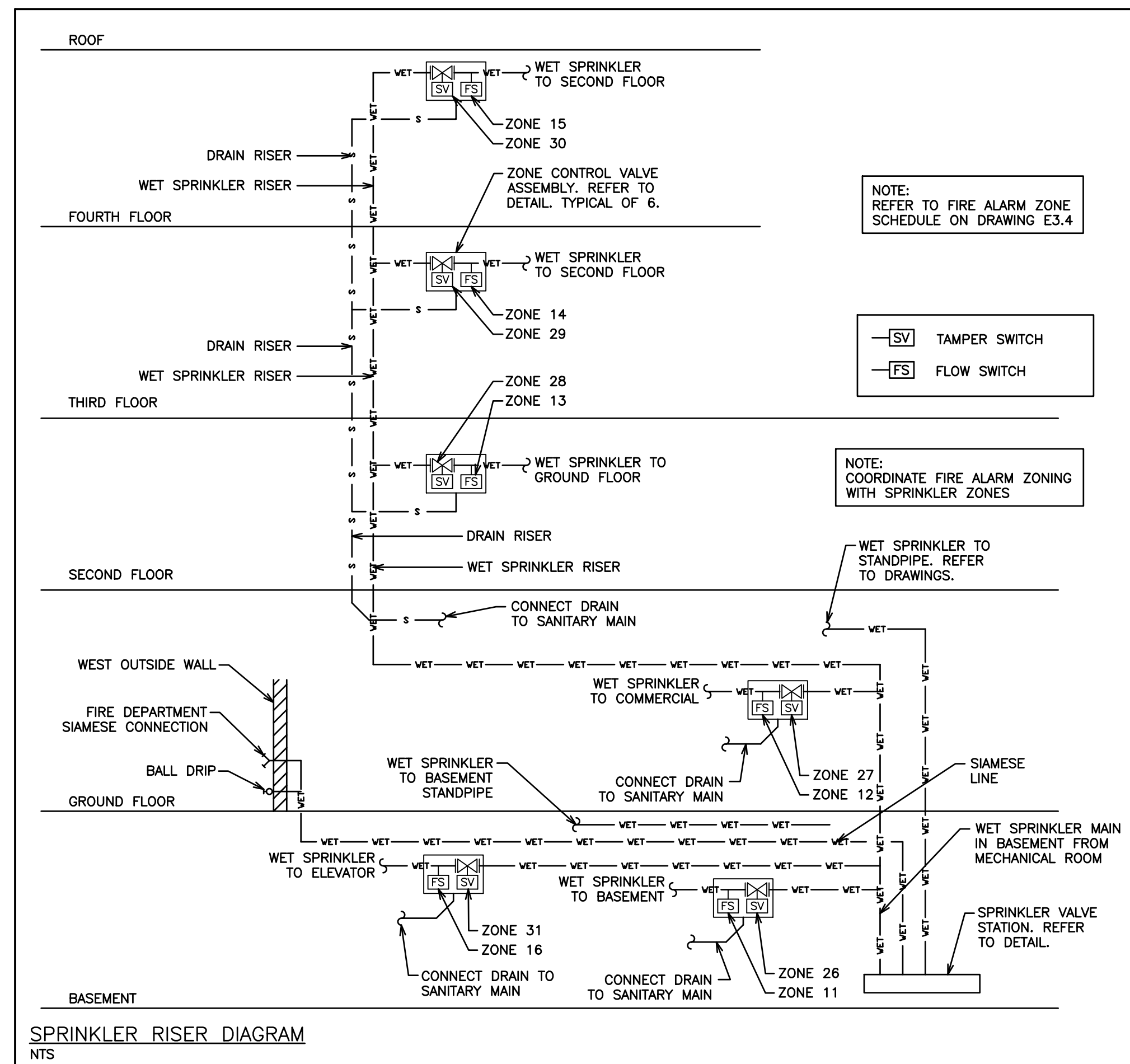
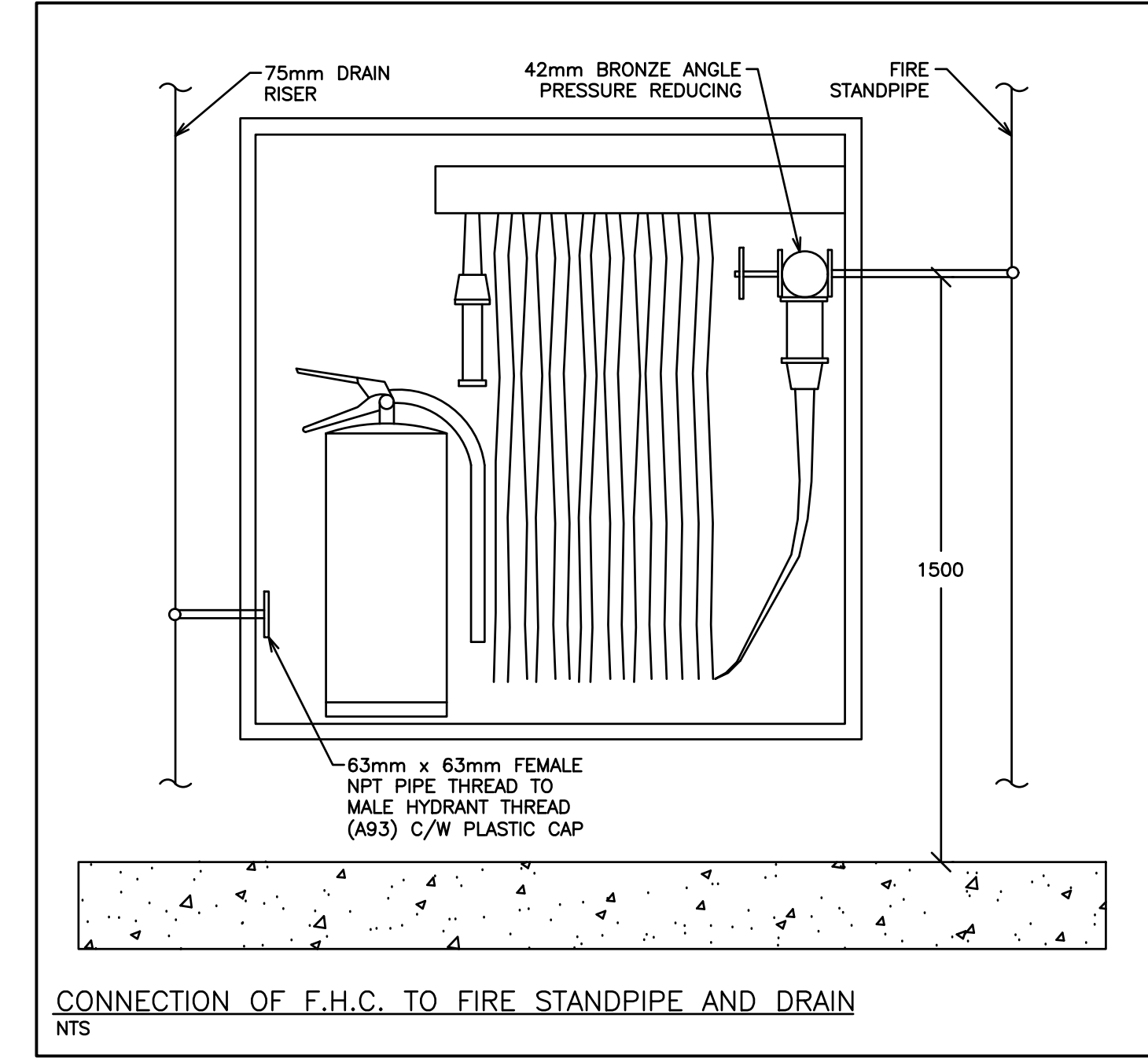
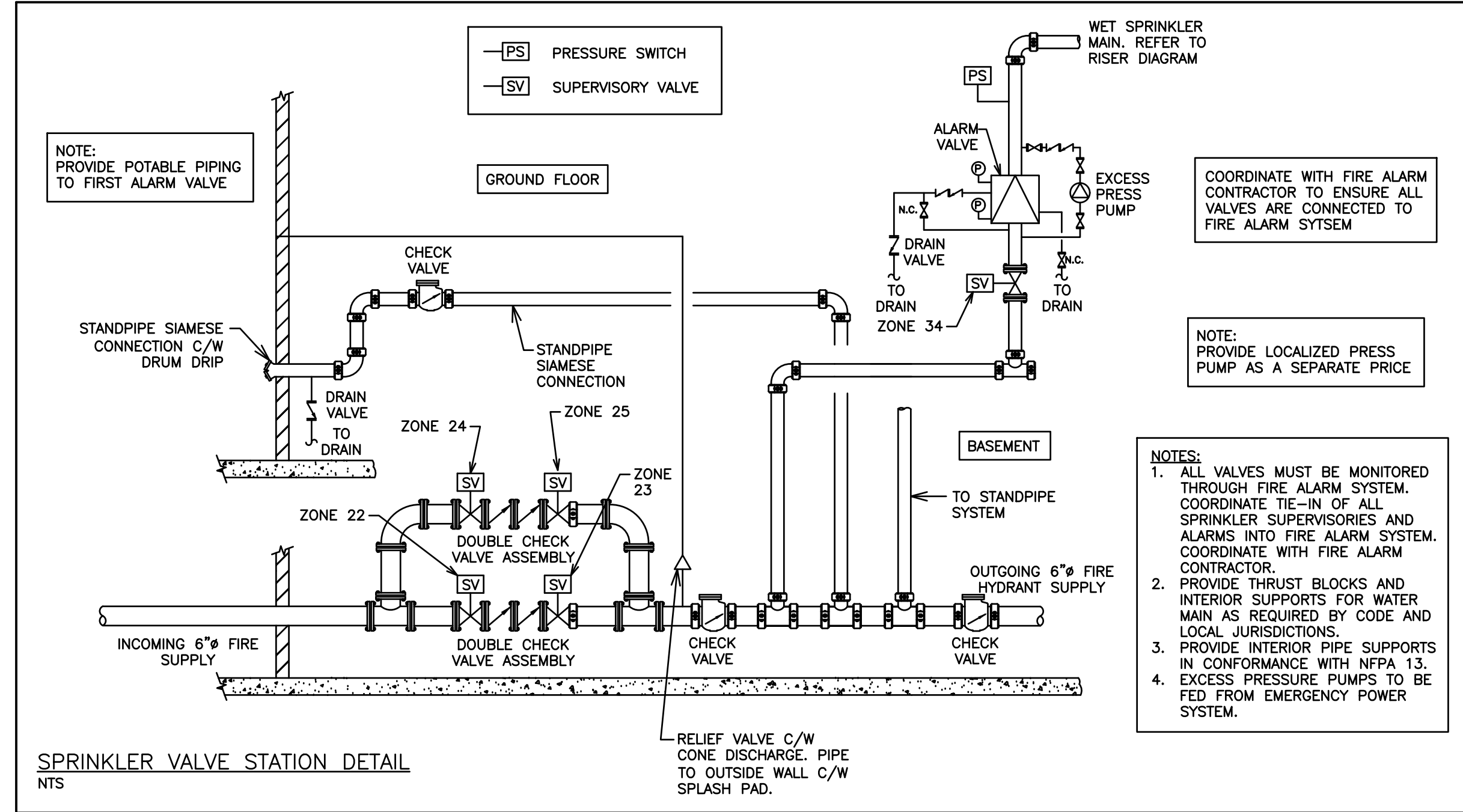


GENERAL REQUIREMENTS FOR MECHANICAL WORK

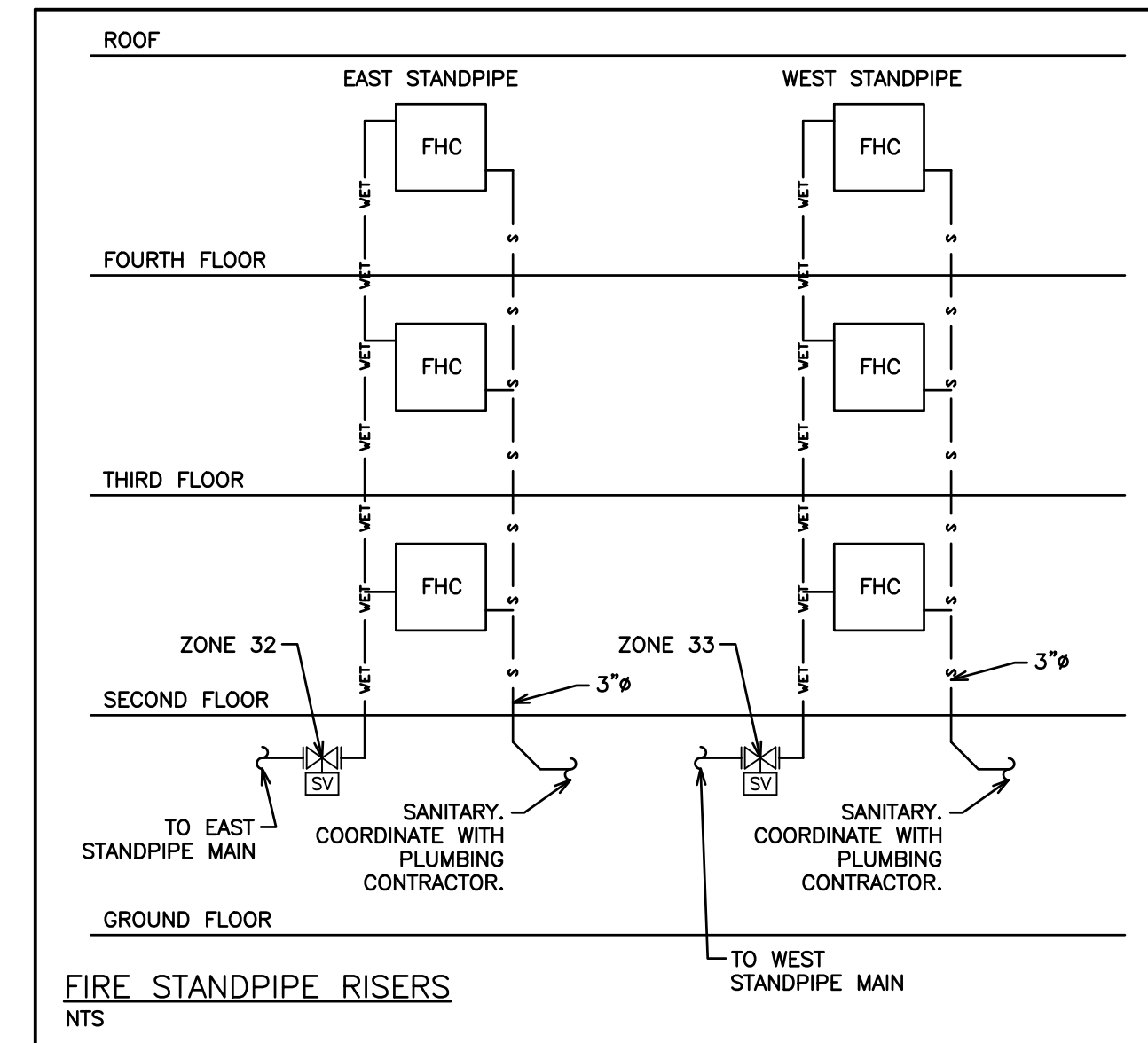
1. SCOPE OF WORK
 - 1.1. CONFORM TO THE APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS OF THE CONTRACT.
 - 1.2. THE GENERAL MECHANICAL SPECIFICATIONS SHALL APPLY TO AND BE PART OF EACH OF THE SECTIONS COVERING THE MECHANICAL TRADES WORK.
 - 1.3. COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE O.B.C., ALL OTHER APPLICABLE CODES, REGULATIONS, BY-LAWS AND OFFICIAL STANDARDS ACCORDING TO THE REQUIREMENTS AND INTERPRETATIONS OF THE AUTHORITIES HAVING JURISDICTION. THESE CODES AND STANDARDS CONSTITUTE AN INTEGRAL PART OF THESE SPECIFICATIONS. IN CASE OF CONFLICT, THE CODES TAKE PRECEDENCE OVER THE CONTRACT DOCUMENTS.
2. EXAMINATION OF SITE AND INFORMATION
 - 2.1. EACH SUBCONTRACTOR, BEFORE PRICING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND THEY SHALL FAMILIARIZE THEMSELVES WITH THE BUILDING CONSTRUCTION AND FINISH IN ORDER THAT THEIR TENDER MAY INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK.
3. RELATIONSHIP TO OTHER TRADES
 - 3.1. THIS SUBCONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS INSTALLING EQUIPMENT, PIPING, OTHER WORK, FOUNDATIONS, ETC., WHICH MAY AFFECT THEIR INSTALLATION, AND THEY SHALL ARRANGE THEIR EQUIPMENT, PIPING, ETC., IN PROPER RELATION WITH OTHER APPARATUS, AND WITH THE BUILDING CONSTRUCTION. THIS SUBCONTRACTOR SHALL ALSO CONFIRM THE ELECTRICAL CHARACTERISTICS OF THE PROJECT AND ORDER EQUIPMENT ACCORDINGLY.
 - 3.2. SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF ALL WORK, TO SEE THAT THEY ALL COME WITHIN THE LIMITS ESTABLISHED BY THE FINISH LINES OF ALL WALLS, FLOORS, CEILINGS, ETC.
 - 3.3. THIS SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR AND OTHER SUBCONTRACTORS WHO ARE CONCERNED, OF ALL OPENINGS, FOUNDATION WORK, HANGERS, INSERTS, ANCHORS, OR OTHER PROVISIONS NECESSARY FOR THE INSTALLATION OF THE SUBCONTRACTORS WORK, AND THEY SHALL FURNISH ALL INFORMATION AND NECESSARY MATERIALS IN AMPLE TIME SO THAT PROPER PROVISIONS CAN BE MADE FOR SAME, AND SHALL SUPPLY AND CORRECTLY AND ACCURATELY PLACE ALL INSERTS, SLEEVES, ANCHORS, ETC.
 - 3.4. FAILURE TO COMPLY WITH THESE REQUIREMENTS ON THE PART OF THIS SUBCONTRACTOR WILL RENDER THEM RESPONSIBLE FOR THE COST OF CUTTING OPENINGS, INSTALLING HANGERS AND OTHER PROVISIONS AT A LATER DATE, AND THE SUBSEQUENT PATCHING, ETC., THEREBY REQUIRED.
 - 3.5. NO CUTTING SHALL BE DONE WITHOUT PERMISSION. ALL SUCH WORK SHALL BE DONE BY TRADES-PERSONS SKILLED IN AND CERTIFIED FOR THIS PARTICULAR TRADE.
 - 3.6. EACH SUBCONTRACTOR IS TO BE AN EXPERT IN THEIR TRADE.
4. REQUIREMENTS OF INSPECTION DEPARTMENTS
 - 4.1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN EACH CASE, PARTICULARLY ALL AFFECTED DEPARTMENTS OF THE MUNICIPALITY AND PROVINCE. ELECTRICAL EQUIPMENT SUPPLIED MUST CONFORM TO THE REGULATIONS OF CSA AND THE LOCAL UTILITY. ANYTHING NECESSARY TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS SHALL BE PROVIDED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNERS IF IT REASONABLY COULD HAVE BEEN FORESEEN WHEN TENDERING.
 - 4.2. EACH SUBCONTRACTOR SHALL PREPARE DRAWINGS IN ADDITION TO ENGINEER'S DRAWINGS AS MAY BE REQUIRED BY VARIOUS INSPECTION DEPARTMENTS HAVING JURISDICTION, AND OBTAIN THEIR APPROVAL BEFORE PROCEEDING WITH THE WORK.
 - 4.3. IN THE EVENT THAT THE INSPECTION DEPARTMENT'S REQUEST DEVIATES FROM THE ENGINEER'S LAYOUT, THE SUBCONTRACTOR SHALL CONSULT ENGINEER BEFORE PROCEEDING WITH THE SAME. IT SHALL BE NOTED THAT ENGINEER'S DRAWINGS ARE GENERALLY ACCEPTABLE TO INSPECTION DEPARTMENTS AND MINOR SUPPLEMENTS NEED ONLY BE MADE BY SUBCONTRACTORS.
5. CERTIFICATES, PERMITS, FEES
 - 5.1. SUBCONTRACTORS SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES INCLUDING PAYMENT FOR STREET CONNECTIONS TO STORM, SANITARY, WATER AND GAS IN ORDER THAT THE WORK HEREIN SPECIFIED MAY BE CARRIED OUT AND THEY SHALL FURNISH ANY CERTIFICATES NEEDED AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF THE MUNICIPALITY AND PROVINCE.
6. GUARANTEE
 - 6.1. THIS SUBCONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP USED IN THE WORK TO BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, OF BEST QUALITY AND TYPE OBTAINABLE TO GIVE FIRST-CLASS CONSTRUCTION AND PROPER EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK WITHIN ONE YEAR AFTER WRITTEN ACCEPTANCE OF THEIR WORK, SHALL BE REPAIRED AND REPLACED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WHERE SUCH DEFECTS OCCUR, THIS SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED IN MAKING THE DEFECTIVE WORK GOOD. THIS SHALL NOT OBSOLETE ANY LONGER WARRANTIES ON SPECIFIC ITEMS OF EQUIPMENT.
 - 6.2. ALL INJURIES TO ADJACENT WORK, PARTICULARLY PLASTER, WOOD FINISHES OR OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT, CAUSED BY SUCH DEFECTS OF THIS SUBCONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENT AND REPAIR, SHALL BE MADE GOOD AT THE EXPENSE OF THIS SUBCONTRACTOR. ALL REPAIR WORK SHALL BE DONE BY TRADES RESPONSIBLE FOR THE ORIGINAL WORK.
7. DRAWINGS
 - 7.1. THE DRAWINGS SHOW THE APPROXIMATE LOCATION FOR SPECIAL APPARATUS AND THE MATERIALS THROUGHOUT THE BUILDING. THE ARRANGEMENT SHOWN ON THE DRAWING IS MORE OR LESS DIAGRAMMATIC AND AS SUCH APPROXIMATE ONLY, AND MAY BE ALTERED, AS APPROVED BY THE ENGINEER, TO MEET REQUIREMENTS OF THE APPARATUS, ETC., AND OF THE BUILDING. EACH SUBCONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MEASUREMENTS FOR THEIR WORK THROUGHOUT, AND THEY SHALL ARRANGE THEIR PIPING, WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN A SATISFACTORY MANNER AND SHALL CO-OPERATE WITH OTHER CONTRACTORS TO ENSURE THAT WORK SHALL MEET ALL REQUIREMENTS OF DIVERSE CONTRACTS.
 - 7.2. ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFIED OR SPECIFIED BUT NOT SHOWN SHALL BE INCLUDED.
 - 7.3. ITEMS OBVIOUSLY REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM BUT NOT SPECIFIED NOR SHOWN SHALL BE INCLUDED.
8. RESPONSIBILITY AND LIABILITY
 - 8.1. EACH SUBCONTRACTOR SHALL SUPERVISE THE LAYING OUT OF THEIR WORK AND SHALL ARRANGE IT IN CO-OPERATION WITH OTHER WHO MAY BE WORKING ON THE PREMISES WHILE THE WORK OF THIS CONTRACT IS IN PROGRESS. THEY SHALL PROTECT FINISHED AND UNFINISHED WORK OF THIS CONTRACT AND/OR WORK OF OTHERS ON THE PREMISES UNTIL THE COMPLETED WORK HAS BEEN ACCEPTED.
 - 8.2. THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES FOUND IN THE DRAWINGS OR SPECIFICATIONS BEFORE SUBMITTING THEIR TENDER. THEY SHALL ABIDE BY DECISIONS GIVEN TO THEM IN WRITING WITH REGARD TO SAME. EACH SUBCONTRACTOR IS CAUTIONED THAT THE WORK AS SHOWN IS INTENDED TO BE COMPLETE IN ALL RESPECTS AND THAT FAILURE ON THEIR PART TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES WILL NOT RELIEVE THEM OF THE RESPONSIBILITY OF COMPLETING THE WORK AS INTENDED AT THE CONTRACT PRICE.
9. CLEAN-UP
 - 9.1. DURING THE COURSE OF CONSTRUCTION, EACH SUBCONTRACTOR SHALL KEEP THEIR WORK TIDY AND NOT ALLOW AN ACCUMULATION OF DEBRIS RESULTING FROM THEIR WORK.
 - 9.2. UPON COMPLETION OF THEIR WORK THEY SHALL LEAVE THE PREMISES IN A BROOM-CLEAN CONDITION.
10. PROTECTION
 - 10.1. SUBCONTRACTORS ARE TO PROTECT THEIR WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG AND CAP ALL OPENINGS IN PIPE, EQUIPMENT AND FIXTURES TO PREVENT OBSTRUCTIONS.
11. ELECTRICAL WIRING AND CONTROLS
 - 11.1. ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL DIVISION. THE MECHANICAL TRADE INVOLVED SHALL PROVIDE STARTERS, THERMOSTATS, VALVES, CONTROL TRANSFORMERS, RELAYS, ETC. ALL CONTROL WIRING SHALL BE DONE BY THE MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED ELSEWHERE IN THIS SPECIFICATION.

SPRINKLER NOTES:

1. CONFIRM CONDITIONS PRIOR TO PRICING AND INSTALLATION.
2. PROVIDE WET SYSTEM FOR BUILDING.
3. PROVIDE VALVES, HEADS, AND PIPING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SPRINKLER SYSTEM IN CONFORMANCE WITH NFPA 13-2013 AND LOCAL CODES.
4. PROVIDE FIRE EXTINGUISHERS AS PER DRAWINGS. NFPA 10 IS REQUIRED BY LOCAL FIRE PREVENTION SERVICES. ALLOW FOR FOUR (4) ADDITIONAL FIRE EXTINGUISHERS, FROM THAT SHOWN ON DRAWINGS AND TO BE LOCATED AT THE DISCRETION OF THE FIRE PREVENTION SERVICES.
5. SPRINKLER CONTRACTOR TO COORDINATE WITH GRILLE, AND LIGHT LOCATIONS AND WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO LOCATING SPRINKLER HEADS. CONTRACTOR IS TO VERIFY HEAD LAYOUT ON SITE TO ENSURE ADEQUATE COVERAGE AS PER NFPA 13-2013.
6. CONTRACTOR SHALL DETERMINE BEST ROUTING OF SPRINKLER PIPING BY COORDINATING WITH ALL DRAWINGS. REFER SPECIFICALLY TO M1-PLUMBING, M2-DUCTWORK AND GAS PIPING, COORDINATE WITH ALL OTHER TRADES ON SITE PRIOR TO INSTALLATION OF PIPING.
7. CONCEAL ALL NEW PIPING IN CEILING SPACE OR BULKHEADS.
8. PROVIDE LOCKABLE ACCESS DOORS IN DROPPED DRYWALL CEILINGS AND WALLS FOR ACCESS TO VALVES, ETC. WHERE REQUIRED.
9. COORDINATE INTERLOCK OF SPRINKLER SYSTEM INTO FIRE ALARM SYSTEM WITH ELECTRICAL CONTRACTOR.
10. ALL REQUIRED CUTTING AND CORING BY SPRINKLER CONTRACTOR. ALL PATCHING BY FIRE PREVENTION SERVICES.
11. PROVIDE DESIGN DRAWINGS COMPLETE WITH HYDRAULIC CALCULATIONS FOR SUBMITTAL AND REVIEW BY ENGINEER AND REVIEWING AUTHORITIES.
12. SYSTEM SHALL BE TESTED AS PER SPECIFICATIONS AND WITNESSED BY THE ENGINEER.
13. COORDINATE TESTING OF DEVICES INTERLOCKED WITH FIRE ALARM SYSTEM WITH CONTRACTOR.
14. PROVIDE MATERIAL AND TEST CERTIFICATES UPON COMPLETION OF INSTALLATION AND TESTING TO ENGINEER AND REVIEWING AUTHORITIES.



HAZARDS	
LIGHT HAZARD (0.1 gpm over 1500 sq.ft.)	ALL AREAS EXCEPT BELOW
ORDINARY HAZARD I (0.15 gpm over 1500 sq.ft.)	STORAGE LOCKERS, MACHINE, GARBAGE, MECHANICAL AND ELECTRICAL ROOMS



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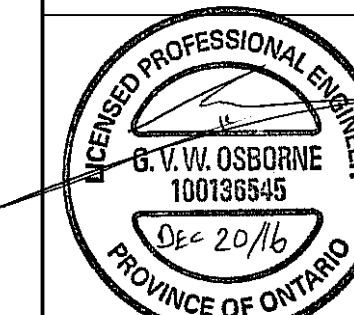
496 TAUNTON ROAD EAST, OSHAWA, ON
PETER HOOGER

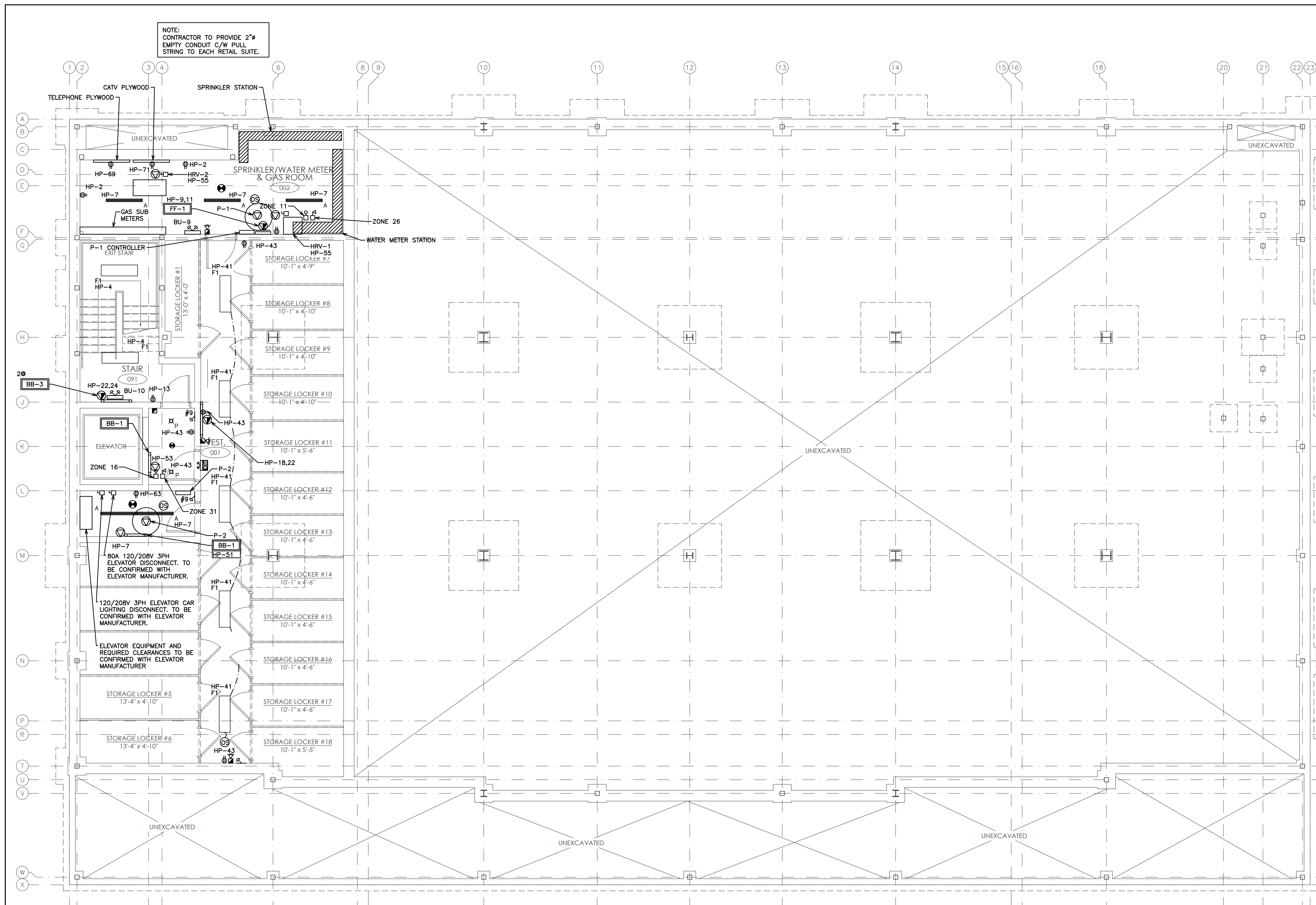
**MECHANICAL SPRINKLER
NOTES & DETAILS**

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SCALE: 3/16" = 1'	PROJECT NO. 115147
DRAWN BY: B.C.A.	DRAWING NO. M3.6
DESIGN BY: B.C.A./G.V.W.O.	CAD FILE: 115147 M
CHECKED BY: G.V.W.O.	PLOT DATE: 12/20/16
DATE: DECEMBER 2016	SUBMISSION: PERMIT





NOTE:
CONTRACTOR TO PROVIDE 2"Ø
EMPTY CONDUIT C/W PULL
STRING TO EACH RETAIL SUITE.

NOTE:
COORDINATE SHARED SPACES
WITH MECHANICAL CONTRACTORS.

NOTE:
CONTRACTOR TO PROVIDE
4" FLUORESCENT FIXTURE
AND DUPLEX GFCI OUTLET
IN ELEVATOR PIT.

NOTE:
LIGHTING SHOWN IS FOR SCHEMATIC
AND SCOPE OF WORK PURPOSES
ONLY. CONTRACTOR TO COORDINATE
EXACT LOCATION AND ORIENTATION
ON SITE.

NOTE:
ALL SWITCHES AND CONTROLS WITHIN
BARRIER-FREE AREAS TO BE MOUNTED
AS PER O.B.C. 3.8.1.5.(1)(c).

NOTE:
TENDERING OF THESE DOCUMENTS IS DONE UNDER THE
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EXPERIENCED AND LICENSED IN THE WORKS BEING
PROVIDED AND THAT ALL COMPONENTS OF A FULLY
FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER
SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE
SYSTEM.

NOTE:
EMERGENCY LIGHTING SHALL BE
INCLUDED IN CONFORMANCE WITH
O.B.C. 2012 DIVISION B 3.2.7.3.

NOTE:
EXIT SIGNS SHALL BE INSTALLED
IN CONFORMANCE WITH O.B.C.
2012 DIVISION B 3.4.5.1.

NOTE:
FIRE ALARM VERIFICATION SHALL
INCLUDE AUDIBILITY LEVELS
THROUGHOUT THE BUILDING.

NOTE:
CONNECT FIRE ALARM TO
UNSWITCHED PORTION OF
WASHROOM LIGHTING CIRCUIT.

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REVISIONS

496 TAUNTON ROAD EAST, OSHAWA
PETER HOOGER

**ELECTRICAL BASEMENT
LAYOUT**

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SCALE: 3/16" = 1'

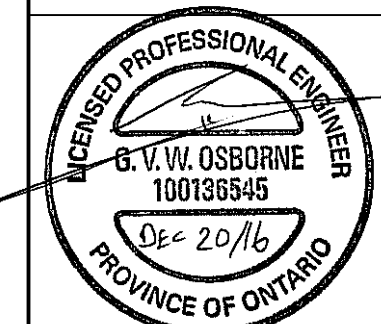
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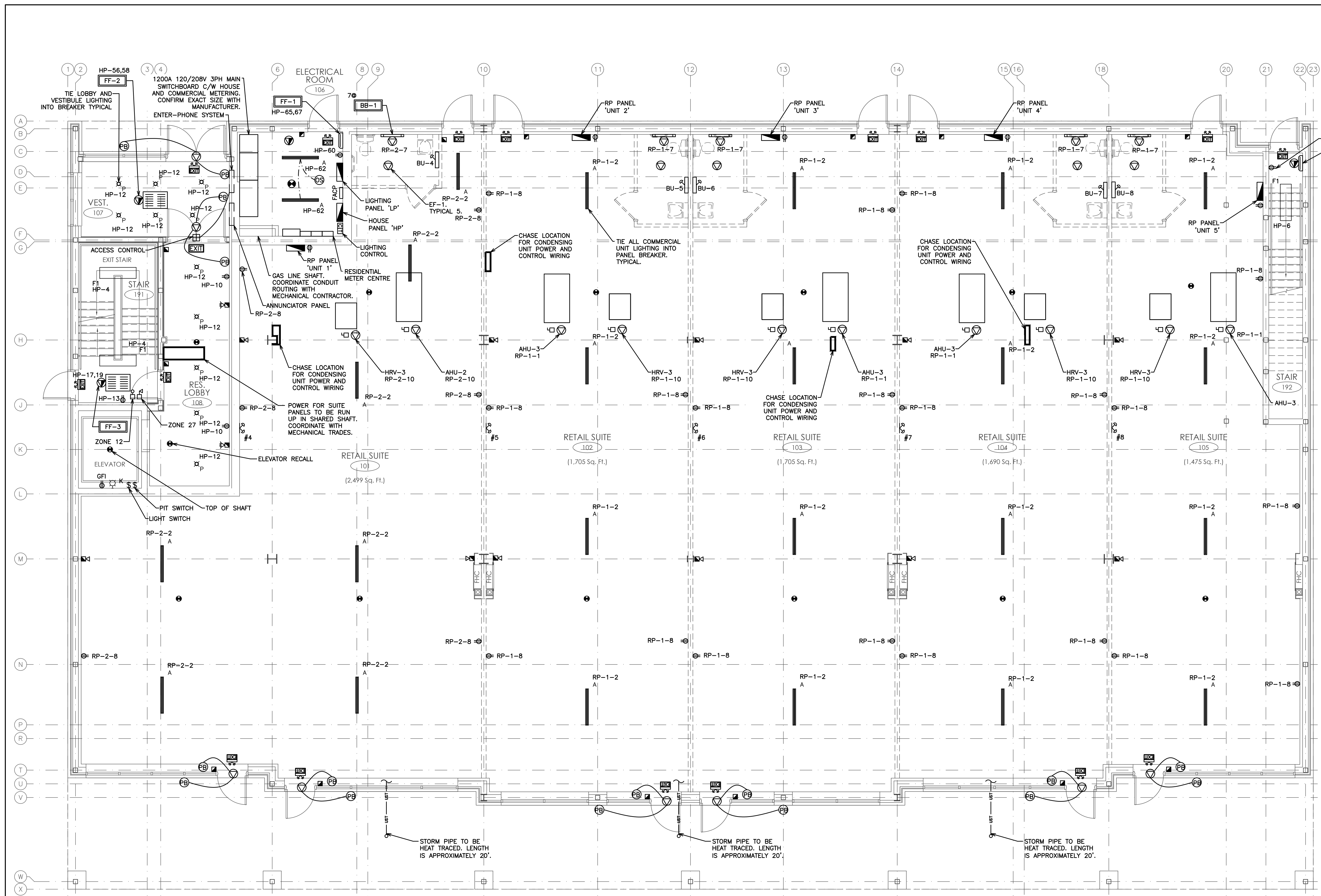
DRAWN BY: C.P.D. DRAWING NO. E1

DESIGN BY: C.P.D./G.V.W.O.

CHECKED BY: G.V.W.O. CAD FILE: 115705 E

DATE: DECEMBER 2016 PLOT DATE: 12/20/16 SUBMISSION: PERMIT





NOTE: COORDINATE SHARED SPACES WITH MECHANICAL CONTRACTORS.

NOTE: PROVIDE HEAT TRACING AS INDICATED ON PLUMBING DRAWINGS

NOTE: LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.

NOTE: ALL SWITCHES AND CONTROLS WITHIN BARRIER-FREE AREAS TO BE MOUNTED AS PER O.B.C. 3.8.1.5.(1)(c).

NOTE: TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.

NOTE: EMERGENCY LIGHTING SHALL BE INCLUDED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.2.7.3.

NOTE: EXIT SIGNS SHALL BE INSTALLED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.4.5.1.

NOTE: FIRE ALARM VERIFICATION SHALL INCLUDE AUDIBILITY LEVELS THROUGHOUT THE BUILDING.

NOTE: CONNECT FIRE ALARM TO UNSWITCHED PORTION OF WASHROOM LIGHTING CIRCUIT.

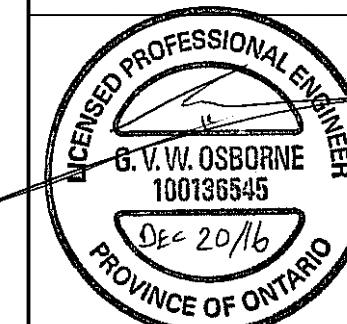
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496 TAUNTON ROAD EAST, OSHAWA, ONTARIO
PETER HOOGER

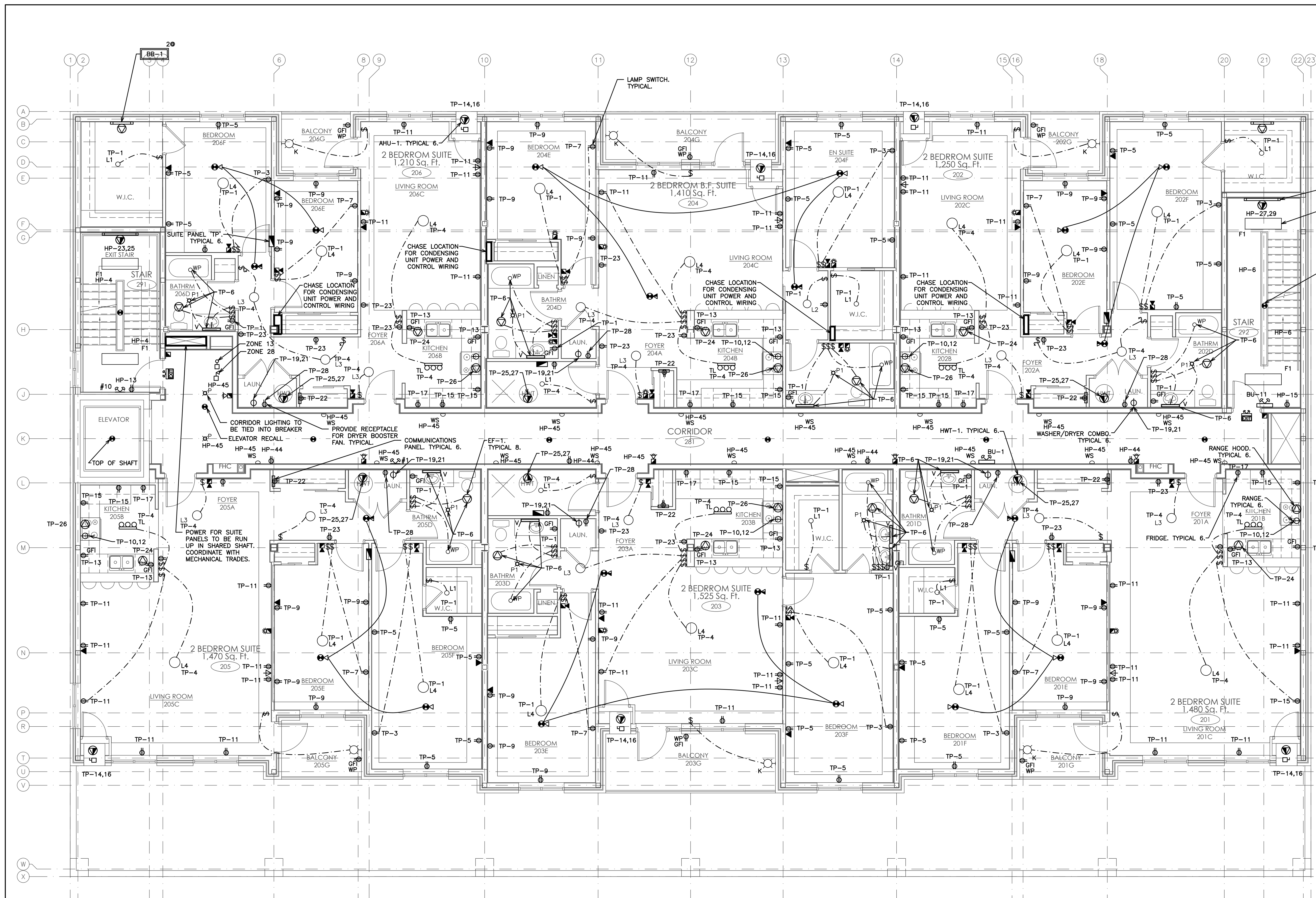
ELECTRICAL MAIN FLOOR LAYOUT

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consulting engineers and planners

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SCALE:	3/16" = 1'	PROJECT NO.	115705
DRAWN BY:	C.P.D.	DRAWING NO.	E2
DESIGN BY:	C.P.D./G.V.W.O.	CHECKED BY:	G.V.W.O.
CHECKED BY:	G.V.W.O.	DATE:	DECEMBER 2016
		CAD FILE:	115705 E
		PLOT DATE:	12/20/16
		SUBMISSION:	PERMIT



NOTE:
COORDINATE ALL DEVICE MOUNTING HEIGHTS WITH O.B.C. AND ALL OTHER CODES AND REGULATIONS. ENSURE ADEQUATE CLEARANCES FROM BULKHEADS AND CEILINGS.

NOTE:
TIE STAIRWELL LIGHTING INTO BREAKER. TYPICAL.

NOTE:
CONTRACTOR TO PROVIDE SWITCH AND UNDER CABINET LIGHTING FOR EACH SUITE KITCHEN. LIGHT FIXTURE TO BE EQUAL TO COOPER LIGHTING MODEL UC2478117.

NOTE:
COORDINATE SHARED SPACES WITH MECHANICAL CONTRACTORS.

NOTE:
LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.

NOTE:
ALL SWITCHES AND CONTROLS WITHIN BARRIER-FREE AREAS TO BE MOUNTED AS PER O.B.C. 3.8.1.5.(1)(c).

NOTE:
1. SMOKE ALARMS SHALL BE INSTALLED WITH PERMANENT CONNECTION TO AN ELECTRICAL CIRCUIT.
2. NO DISCONNECT SWITCH BETWEEN SMOKE ALARM AND CIRCUIT BREAKER.
3. SMOKE ALARMS TO HAVE BATTERY BACKUP.
4. PROVIDE A CARBON MONOXIDE (CO) ALARM IN EACH SUITE NEAR A BEDROOM.

NOTE:
TENDERING OF THESE DOCUMENTS IS DONE UNDER THE MUTUAL UNDERSTANDING THAT ALL CONTRACTORS ARE EXPERIENCED AND LICENSED IN THE WORKS BEING PROVIDED AND THAT ALL COMPONENTS OF A FULLY FUNCTIONING SYSTEM WILL BE INCLUDED WHETHER SHOWN OR NOT SHOWN BUT IMPLIED FOR A COMPLETE SYSTEM.

NOTE:
EMERGENCY LIGHTING SHALL BE INCLUDED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.2.7.3.

NOTE:
EXIT SIGNS SHALL BE INSTALLED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.4.5.1.

NOTE:
FIRE ALARM VERIFICATION SHALL INCLUDE AUDIBILITY LEVELS THROUGHOUT THE BUILDING.

NOTE:
CONNECT FIRE ALARM TO UNSWITCHED PORTION OF WASHROOM LIGHTING CIRCUIT.

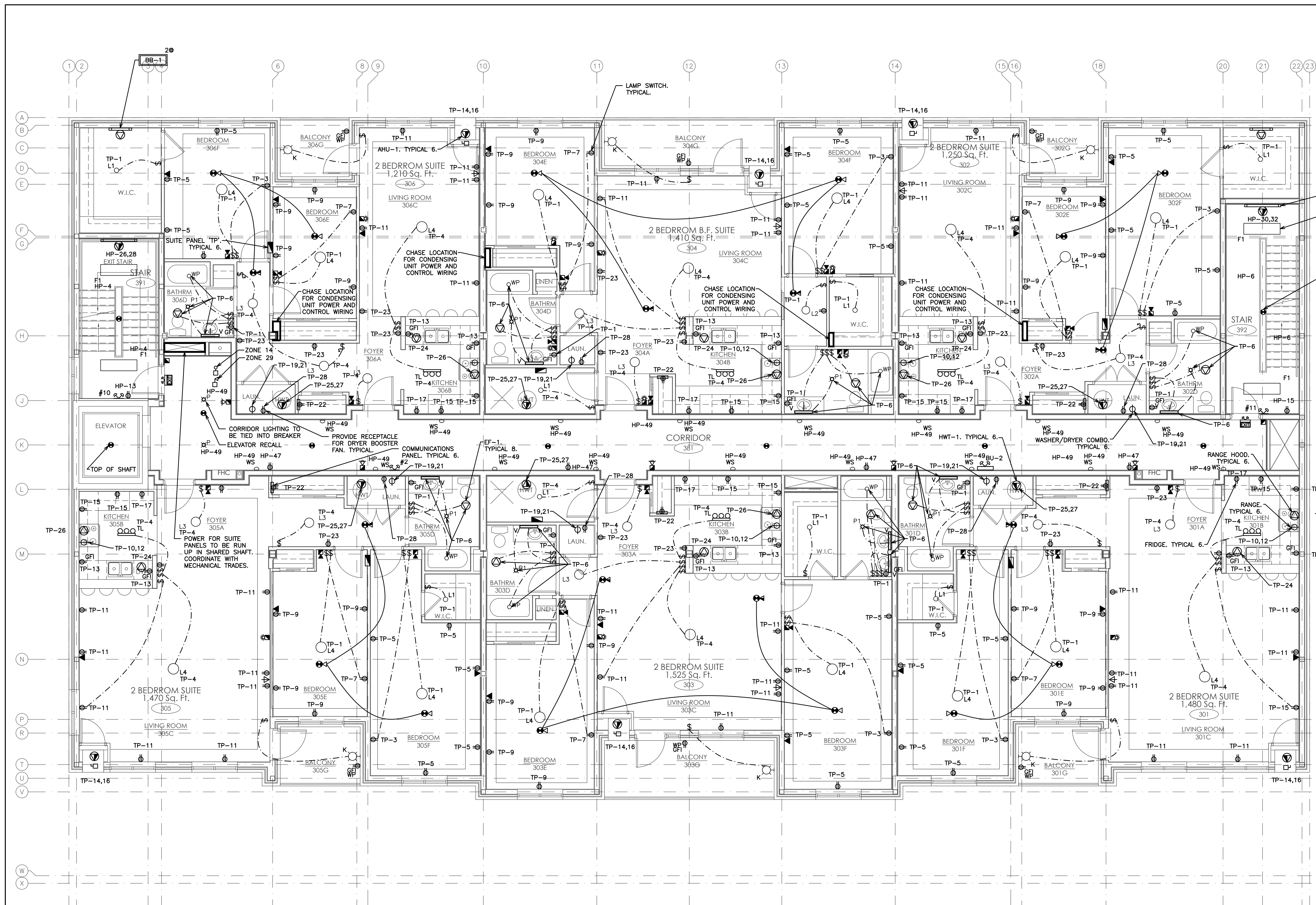
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
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2	ISSUED FOR COORDINATION	SEP 29	G.O.	G.V.W.O.
1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.
NO.	REVISION	DATE	BY	APPROVED

REVISIONS
496 TAUNTON ROAD EAST, OSHAWA, ONTARIO
PETER HOOGER

ELECTRICAL SECOND FLOOR LAYOUT

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	SCALE:	3/16" = 1'	PROJECT NO.	115705
	DRAWN BY:	C.P.D.	DRAWING NO.	E3
	DESIGN BY:	C.P.D./G.V.W.O.	CAD FILE:	115705 E
	CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
DATE:		DECEMBER 2016	SUBMISSION: PERMIT	



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TIE STAIRWELL LIGHTING INTO BREAKER. TYPICAL.

TOP OF SHAFT. TYPICAL 2.

NOTE: CONTRACTOR TO PROVIDE SWITCH AND UNDER CABINET LIGHTING FOR EACH SUITE KITCHEN. LIGHT FIXTURE TO BE EQUAL TO COOPER LIGHTING MODEL UC24T8117.

NOTE: COORDINATE SHARED SPACES WITH MECHANICAL CONTRACTORS.

NOTE: LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.

NOTE: ALL SWITCHES AND CONTROLS WITHIN BARRIER-FREE AREAS TO BE MOUNTED AS PER O.B.C. 3.6.1.5.(1)(c).

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REVISIONS

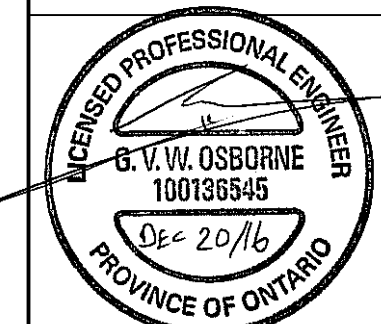
496 TAUNTON ROAD EAST, OSHAWA, ONTARIO
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ELECTRICAL THIRD FLOOR LAYOUT

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SCALE:	3/16" = 1'	PROJECT NO.	115705
DRAWN BY:	C.P.D.	DRAWING NO.	E4
DESIGN BY:	C.P.D./G.V.W.O.	CAD FILE:	115705 E
CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
DATE:	DECEMBER 2016	SUBMISSION:	PERMIT



NOTE:
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4. PROVIDE A CARBON MONOXIDE (CO) ALARM IN EACH SUITE NEAR A BEDROOM.

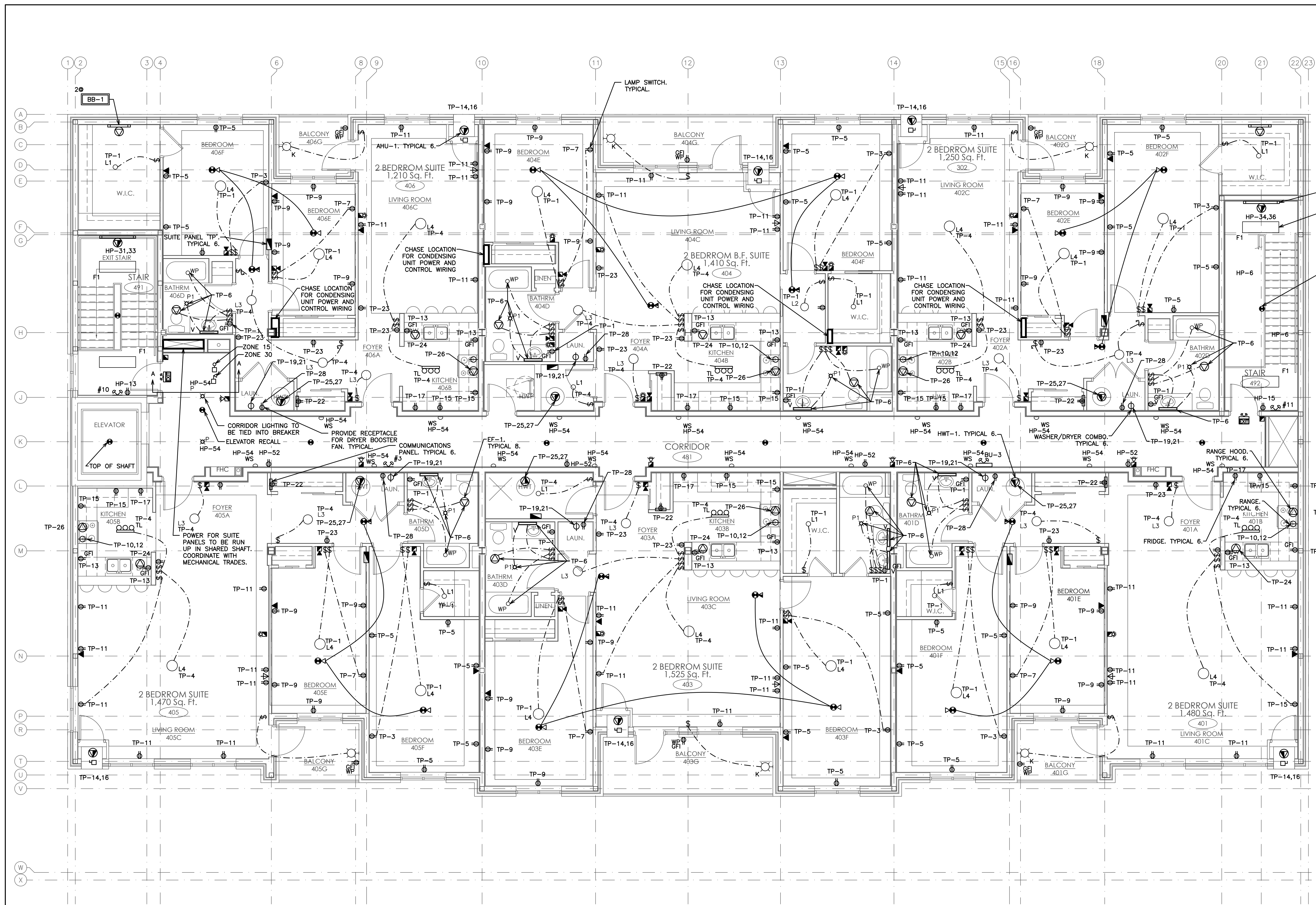
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NOTE:
EMERGENCY LIGHTING SHALL BE INCLUDED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.2.7.3.

NOTE:
EXIT SIGNS SHALL BE INSTALLED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.4.5.1.

NOTE:
FIRE ALARM VERIFICATION SHALL INCLUDE AUDIBILITY LEVELS THROUGHOUT THE BUILDING.

NOTE:
CONNECT FIRE ALARM TO UNSWITCHED PORTION OF WASHROOM LIGHTING CIRCUIT.



NOTE: COORDINATE ALL DEVICE MOUNTING HEIGHTS WITH O.B.C. AND ALL OTHER CODES AND REGULATIONS. ENSURE ADEQUATE CLEARANCES FROM BULKHEADS AND CEILINGS.

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NOTE: COORDINATE SHARED SPACES WITH MECHANICAL CONTRACTORS.

NOTE: LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.

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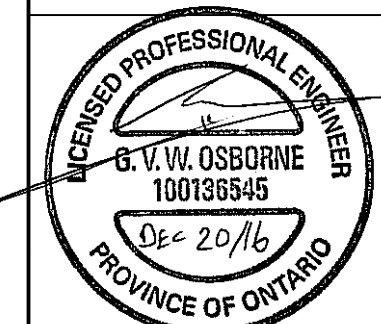
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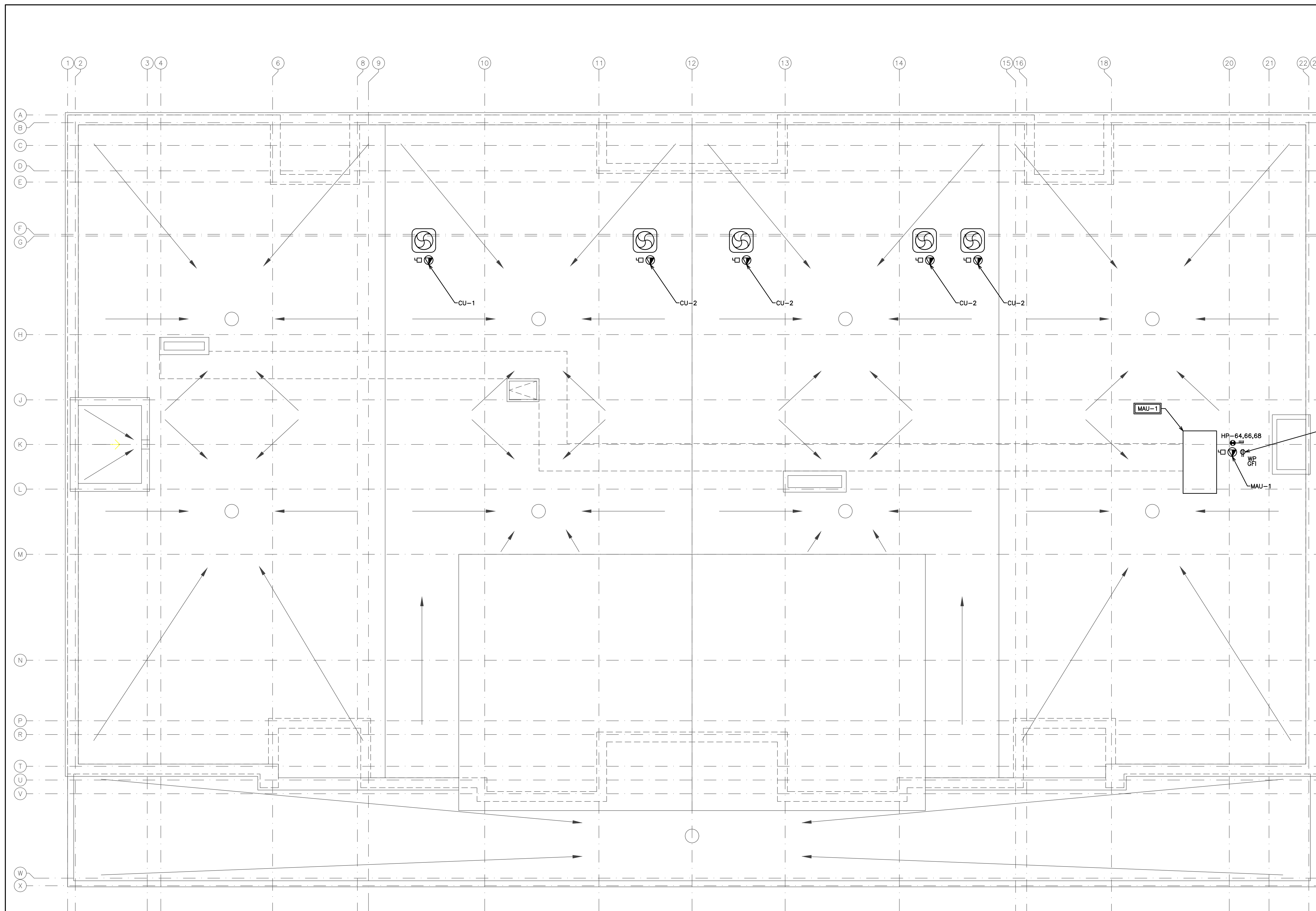
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 PETER HOOGER
ELECTRICAL FOURTH FLOOR LAYOUT

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SCALE: 3/16" = 1'	PROJECT NO. 115705
DRAWN BY: C.P.D.	DRAWING NO. E5
DESIGN BY: C.P.D./G.V.W.O.	CAD FILE: 115705 E
CHECKED BY: G.V.W.O.	PLOT DATE: 12/20/16
DATE: DECEMBER 2016	SUBMISSION: PERMIT





NOTE:
EMERGENCY LIGHTING SHALL BE INCLUDED IN CONFORMANCE WITH O.B.C. 2012 DIVISION B 3.2.7.3.

NOTE:
COORDINATE SHARED SPACES WITH MECHANICAL CONTRACTORS.

PROVIDE MAINTENANCE RECEPTACLES AS PER ONTARIO ELECTRICAL CODE

NOTE:
LIGHTING SHOWN IS FOR SCHEMATIC AND SCOPE OF WORK PURPOSES ONLY. CONTRACTOR TO COORDINATE EXACT LOCATION AND ORIENTATION ON SITE.

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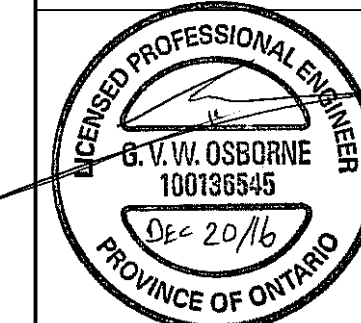
NOTE:
CONNECT FIRE ALARM TO UNSWITCHED PORTION OF WASHROOM LIGHTING CIRCUIT.

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ELECTRICAL ROOF LAYOUT

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SCALE:	3/16" = 1'	PROJECT NO.	115705
DRAWN BY:	C.P.D.	DRAWING NO.	E6
DESIGN BY:	C.P.D./G.V.W.O.	CAD FILE:	115705 E
CHECKED BY:	G.V.W.O.	PLOT DATE:	12/20/16
DATE:	DECEMBER 2016	SUBMISSION:	PERMIT

FIRE ALARM SEQUENCE OF OPERATION

IN NORMAL MODE, THE CONTROL PANEL'S ALPHA-NUMERIC DISPLAY WILL INDICATE THE DATE, TIME, AND THE 'NORMAL CONDITION'.

SINGLE STAGE OPERATION:
IF AN ALARM IS INITIATED IN ANY AREA OF THE BUILDING BY ONE OF THE FOLLOWING:
• OPERATION OF A MANUAL PULL STATION,
• OPERATION OF AN AUTOMATIC FIRE DETECTOR,
• OPERATION OF A SPRINKLER FLOW SWITCH.

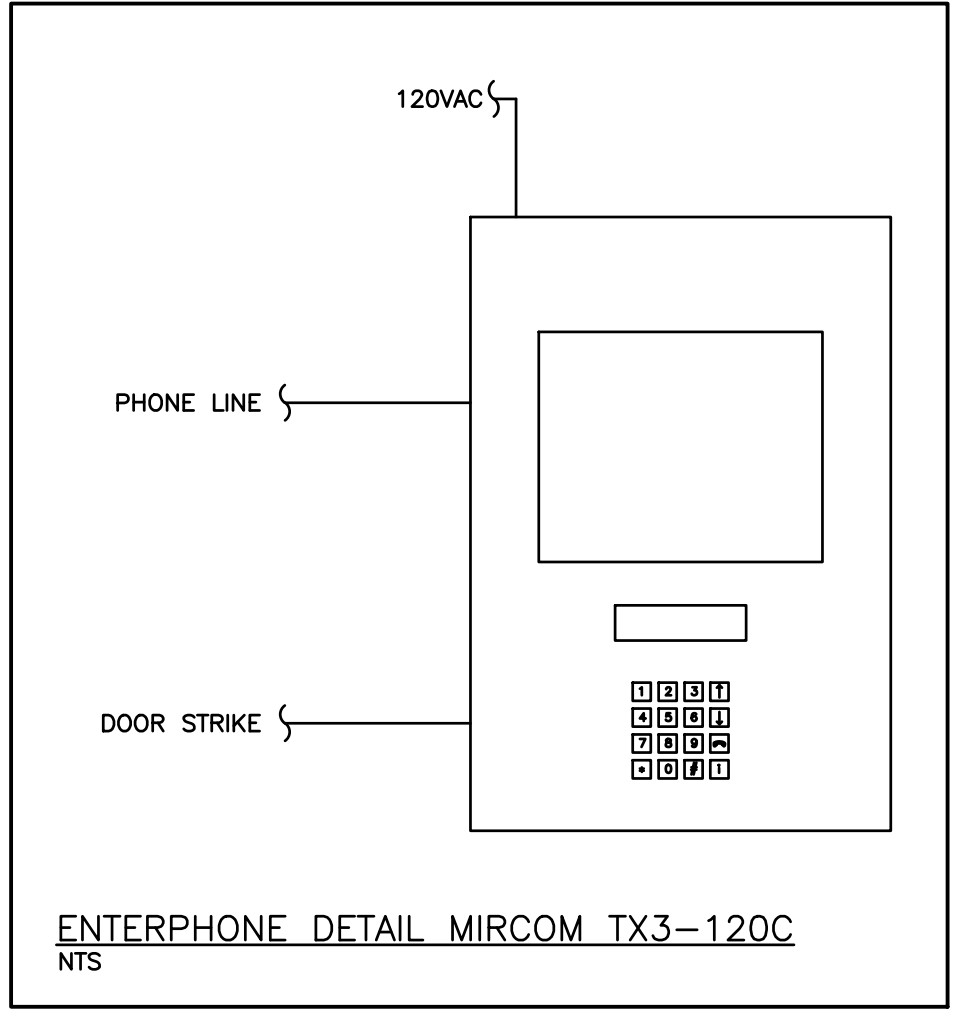
THE MAIN FIRE ALARM CONTROL PANEL SHALL INITIATE THE FOLLOWING ALARM SEQUENCE OF OPERATIONS:
• INDICATE THE POINT OF ALARM ON THE CONTROL PANEL'S ALPHA-NUMERIC DISPLAY.
• LIGHT THE RED COMMON ALARM LED INDICATOR ON THE CONTROL PANEL.
• THE REMOTE ANNUNCIATOR SHALL INDICATE THE ZONE WHERE ALARM ORIGINATED BY ILLUMINATING A CORRESPONDING LABELLED RED LED INDICATOR.
• EVERY AUDIBLE SIGNAL APPLIANCE SHALL SOUND AT A TEMPORAL RATE UNTIL MANUALLY SILENCED (MANUAL SILENCE INHIBITED DURING FIRST MINUTE OF ALARM).
• IF SILENCED, THE "SIGNAL SILENCE" LIGHT ON THE CONTROL PANEL WILL ILLUMINATE.
• IF SILENCED, A SUBSEQUENT ALARM WILL RE-ACTIVATE THE SIGNALS.
• ALL ALARM STROBE SIGNALS SHALL FLASH IN "ALARM" MODE.
• A TROUBLE INHIBIT CIRCUIT SHALL BE INITIATED TO SUPPRESS ANY TROUBLE SIGNALS DURING AN ALARM.
• TYPE, LOCATION, TIME AND DATE OF ALARM CONDITION SHALL BE RECORDED IN THE FIRE ALARM SYSTEM EVENT HISTORY.
• ALL DESIGNED FANS SHALL BE AUTOMATICALLY TURNED OFF.
• DOORS NORMALLY HELD OPEN THROUGH MAGNETIC DOOR HOLDERS SHALL BE RELEASED.
• DOORS NORMALLY LOCKED BY MAGNETIC DEVICES SHALL BE RELEASED.
• INITIATE EMERGENCY ELEVATOR RECALL IF APPLICABLE.
• ACTIVATE CONNECTION TO MONITORING SYSTEM (BY OTHERS) TO TRANSMIT A SIGNAL TO FIRE DEPARTMENT OR APPROVED CENTRAL STATION.
• AN ALARM CAN BE RESET BY PRESSING THE "RESET" BUTTON ON THE CONTROL PANEL.

IF A SUPERVISORY SIGNAL IS INITIATED IN ANY AREA OF THE BUILDING BY ONE OF THE FOLLOWING:
• SPRINKLER SYSTEM LOSS OF PRESSURE
• MOVEMENT OF A FIRE PROTECTION WATER SUPPLY OR SPRINKLER VALVE.

THE MAIN FIRE ALARM CONTROL PANEL SHALL INITIATE THE FOLLOWING ALARM SEQUENCE OF OPERATIONS:
• INDICATE THE SUPERVISORY CONDITION BY LIGHTING THE "COMMON SUPERVISORY" AMBER LED AT THE CONTROL PANEL.
• INDICATE THE SUPERVISORY POINT (DEVICE DESCRIPTION) ON THE CONTROL PANEL'S ALPHA-NUMERIC DISPLAY.
• SOUND THE CONTROL PANEL AUDIBLE BUZZER, AND THE REMOTE ANNUNCIATOR AUDIBLE BUZZER.
• THE REMOTE ANNUNCIATOR SHALL INDICATE EXACT ZONE WHERE THE SUPERVISORY EVENT ORIGINATED BY ILLUMINATING A CORRESPONDING LABELLED AMBER LED INDICATOR.
• ACTIVATE CONNECTION TO MONITORING SYSTEM (BY OTHERS) TO TRANSMIT A SIGNAL TO FIRE DEPARTMENT OR APPROVED CENTRAL STATION.
• THE CONTROL PANEL BUZZER AND REMOTE ANNUNCIATOR BUZZER CAN BE SILENCED BY PRESSING THE "ACKNOWLEDGE" AT THE CONTROL PANEL.

IF A TROUBLE SIGNAL IS INITIATED IN ANY AREA OF THE BUILDING BY ONE OF THE FOLLOWING:
• OPEN CIRCUIT FAULT,
• SHORT CIRCUIT FAULT ON ADDRESSABLE LOOP, SIGNAL CIRCUIT, OR REMOTE ANNUNCIATOR CIRCUIT,
• FAILURE OF SUPERVISED INDICATOR ON REMOTE ANNUNCIATOR,
• DISCONNECTION OR FAILURE OF THE BATTERY PACK,
• GROUND CONDITION ON FIELD WIRE,
• FAILURE OF 120VAC POWER,
• REMOVAL OR MALFUNCTION OF ADDRESSABLE DEVICE OR CONTROL PANEL COMPONENT.

THE MAIN FIRE ALARM CONTROL PANEL SHALL INITIATE THE FOLLOWING ALARM SEQUENCE OF OPERATIONS:
• INDICATE THE TROUBLE CONDITION BY LIGHTING THE "COMMON TROUBLE" AMBER LED AT THE CONTROL PANEL.
• INDICATE THE NATURE OF THE TROUBLE ON THE CONTROL PANEL'S ALPHA-NUMERIC DISPLAY.
• SOUND THE CONTROL PANEL AUDIBLE BUZZER, AND THE REMOTE ANNUNCIATOR AUDIBLE BUZZER.
• ACTIVATE CONNECTION TO MONITORING SYSTEM (BY OTHERS) TO TRANSMIT A SIGNAL TO FIRE DEPARTMENT OR APPROVED CENTRAL STATION.
• THE CONTROL PANEL BUZZER AND REMOTE ANNUNCIATOR BUZZER CAN BE SILENCED BY PRESSING THE "ACKNOWLEDGE" AT THE CONTROL PANEL.



NOTE:
1. CLASS 'A' WIRING AS PERMITTED BY ONTARIO BUILDING CODE FOR IN-SUITE MINI HORNS. A SEPARATE CIRCUIT SHALL BE PROVIDED FOR SUITE HORNS AND CORRIDOR HORNS/STROBES.
2. PROVIDE ENOUGH RELAYS FOR ALL EXPECTED DEVICES AS WELL AS MINIMUM 3 SPARE RELAYS.
3. REFER TO FLOOR PLANS FOR ACTUAL QUANTITY OF DEVICES.

TAG	MANUFACTURER	MODEL	COLOUR	MOUNTING	HEATING	AIR FLOW	VOLTAGE	DIMENSIONS	CONTROLS
FF-1	OUELLET	OACO2000	WHITE	SURFACE	2000 Watts	160 cfm	208V	16-1/8"W x 22-1/16"H x 4-5/16"D	BUILT IN TAMPERPROOF THERMOSTAT
FF-2	OUELLET	OACP4008	WHITE	CEILING RECESSED	4000 Watts	160 cfm	208V	16-1/8"W x 22-1/16"H x 4-5/16"D	BUILT IN TAMPERPROOF THERMOSTAT
FF-2	OUELLET	OACP4008	WHITE	CEILING SURFACE	4000 Watts	160 cfm	208V	16-1/8"W x 22-1/16"H x 4-5/16"D	BUILT IN TAMPERPROOF THERMOSTAT

NOTES: ADDITIONAL COSTS INCURRED AS A RESULT OF ANY ALTERNATIVE MODELS ARE AT THE EXPENSE OF THE CONTRACTOR. CONFIRM WITH ALL DRAWINGS & SITE CONDITIONS PRIOR TO ORDERING.

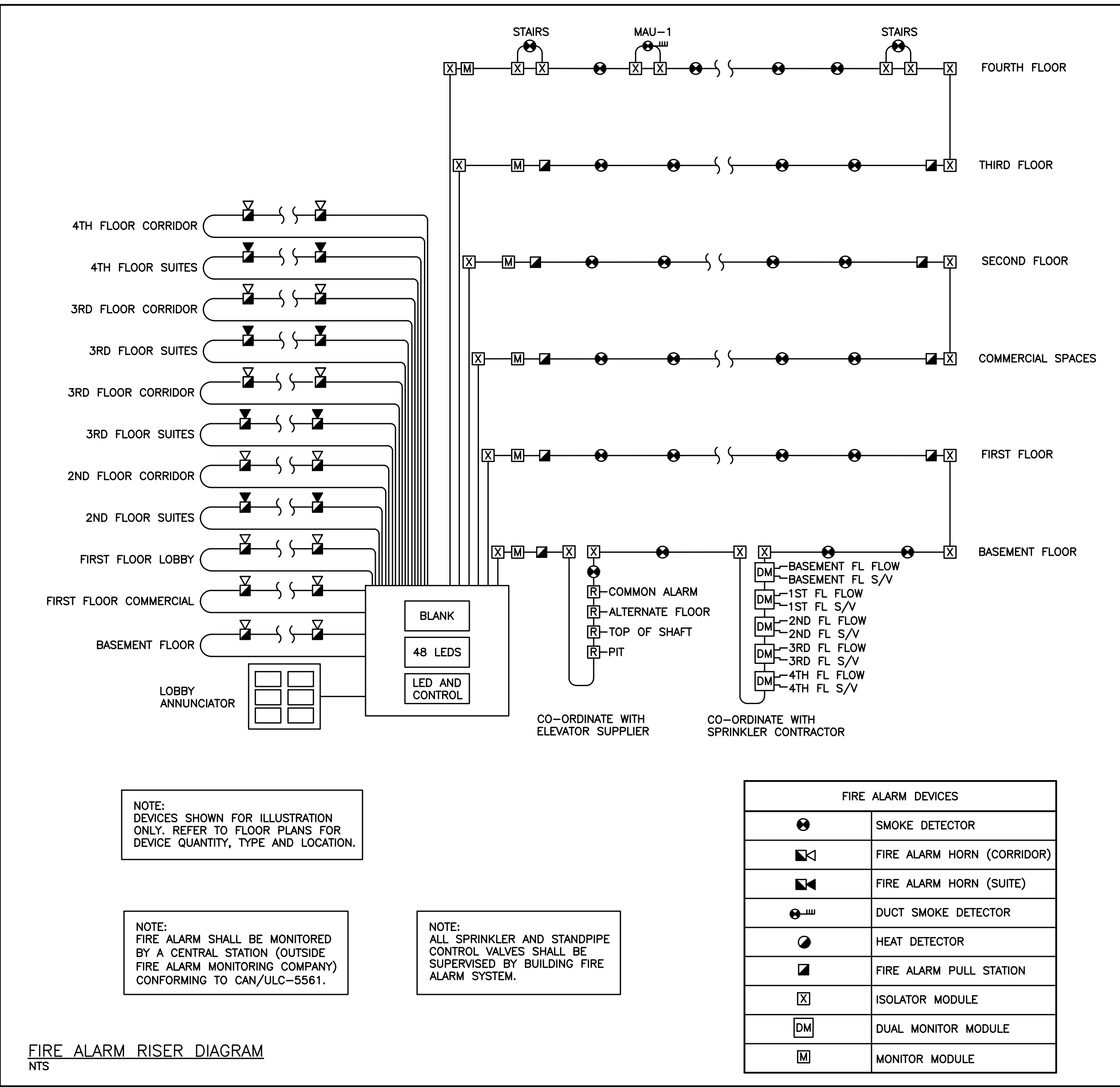
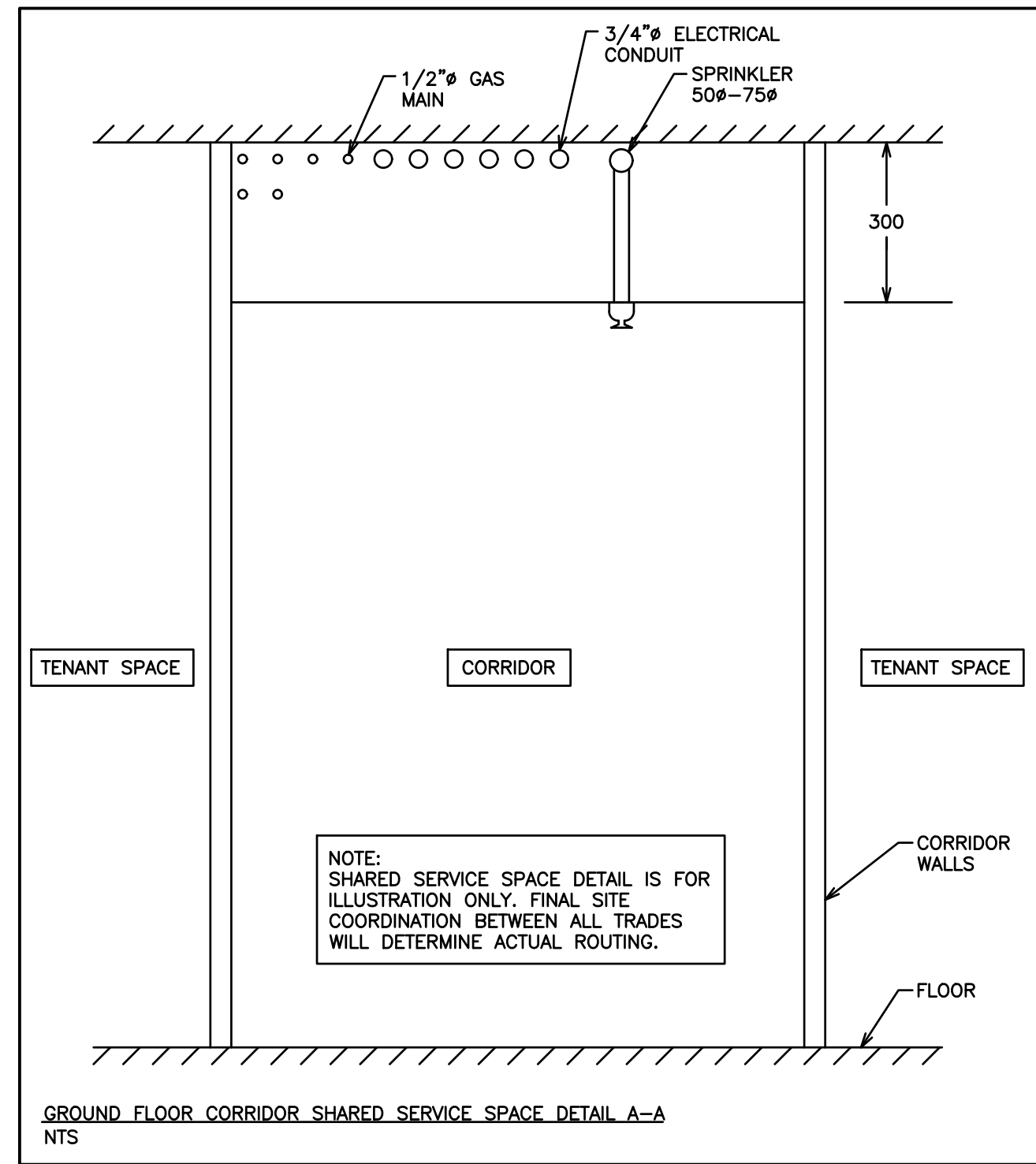
TAG	MANUFACTURER	MODEL	COLOUR	HEATING	VOLTAGE	DIMENSIONS	CONTROLS
BB-1	OUELLET	OFM0302	WHITE	300 Watts	120V	22-5/16"L x 5-13/16"H x 2-7/16"D	BUILT IN TAMPERPROOF THERMOSTAT
BB-2	OUELLET	OFM0752	WHITE	750 Watts	120V	37-3/16"L x 5-13/16"H x 2-7/16"D	BUILT IN TAMPERPROOF THERMOSTAT
BB-3	OUELLET	OFM01008	WHITE	1000 Watts	208V	47-1/2"L x 5-13/16"H x 2-7/16"D	BUILT IN TAMPERPROOF THERMOSTAT

NOTES: ADDITIONAL COSTS INCURRED AS A RESULT OF ANY ALTERNATIVE MODELS ARE AT THE EXPENSE OF THE CONTRACTOR.

TAG	MANUFACTURER	MODEL
BU-1-3	LUMACELL	RG12S-72-2-LD10
BU-4-8	LUMACELL	RG12S-100-2-LD10
BU-9	LUMACELL	RG12S-72-2-LD10
BU-1-11,12	LUMACELL	RG12S-100-2-LD10

FIRE ALARM ZONES	
ZONE	ALARM
1	BASEMENT
2	RESIDENTIAL LOBBY
3	COMMERCIAL UNITS
4	SECOND FLOOR
5	THIRD FLOOR
6	FOURTH FLOOR
7	EAST STAIRWELL
8	WEST STAIRWELL
9	ELEVATOR SHAFT
10	DUCT SMOKE (MUA-1)
11	BASEMENT SPRINKLER (FS)
12	FIRST FLOOR SPRINKLER (FS)
13	SECOND FLOOR SPRINKLER (FS)
14	THIRD FLOOR SPRINKLER (FS)
15	FOURTH FLOOR SPRINKLER (FS)
16	ELEVATOR SHAFT SPRINKLER (FS)
17	MAIN ALARM VALVE
18	SPARE
19	SPARE
20	SPARE
ZONE	SUPERVISORY
21	SPRINKLER - POWER LOSS (EXCESS PRESS PUMP)
22	SPRINKLER - BACKFLOW PREVENTER INLET (SV)
23	SPRINKLER - BACKFLOW PREVENTER OUTLET (SV)
24	SPRINKLER - BACKFLOW PREVENTER INLET (SV)
25	SPRINKLER - BACKFLOW PREVENTER OUTLET (SV)
26	SPRINKLER - BASEMENT (SV)
27	SPRINKLER - FIRST FLOOR (SV)
28	SPRINKLER - SECOND FLOOR (SV)
29	SPRINKLER - THIRD FLOOR (SV)
30	SPRINKLER - FOURTH FLOOR (SV)
31	SPRINKLER - ELEVATOR SHAFT (SV)
32	STANDPIPE EAST
33	STANDPIPE WEST
34	WET SPRINKLER MAIN
35	SPARE
36	SPARE
37	SPARE
38	SPARE
39	SPARE
40	SPARE
CIRCUITS	
HORN CIRCUIT	GROUND FLOOR LOBBY
HORN CIRCUIT	GROUND FLOOR COMMERCIAL
HORN CIRCUIT	SECOND FLOOR COMMON
HORN CIRCUIT	SECOND FLOOR SUITES
HORN CIRCUIT	THIRD FLOOR COMMON
HORN CIRCUIT	THIRD FLOOR SUITES
FAN SHUT DOWN	(MAU-1)

- TYPICAL SUITE NOTES**
- CONTRACTOR SHALL INSTALL RECEPTACLES IN UNITS SO THAT EVERY POINT OF USABLE WALL SPACE SHALL BE WITHIN 1800mm OF A RECEPTACLE WHEN MEASURED ALONG THE WALL AT FLOOR.
 - OUTLETS ON PARTY WALLS SHALL BE SPACED 450mm APART TO PROVIDE FIRE SEPARATION.
 - ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF SUSPENDED CEILING WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING-IN OF OUTLET BOXES.
 - DO NOT RUN HORIZONTAL CONDUITS IN SHEAR WALLS.
 - CONDUITS IN FLOOR SLABS MUST BE MIN. 2 1/2" ABOVE PLYWOOD FORMS.
 - DO NOT CUT OR DRILL HOLES IN PLYWOOD. USE SMALL PLASTIC BOXES TO RECEIVE CONDUIT ENDS.
 - COORDINATE AND OBTAIN EXACT LOCATION OF MECHANICAL EQUIPMENT FROM MECHANICAL DRAWINGS.
 - ELECTRICAL CONTRACTOR SHALL ENSURE THAT SWITCH LOCATION DOES NOT INTERFERE WITH CLOSING DOORS.
 - LOCATION OF WASHROOM SWITCHES AND HEATER SHALL BE CONFIRMED WITH SAFETY INSPECTOR PRIOR TO ROUGHING-IN.
 - COORDINATE LOCATION OF SMOKE ALARMS AND HEAT DETECTORS WITH MECHANICAL EQUIPMENT. DEVICES SHALL BE AT LEAST 5'-0" FROM ANY EXHAUST OR RETURN AIR GRILLES.
 - ONLY TYPICAL UNIT LAYOUTS ARE SHOWN. OTHER UNITS NOT DETAILED ARE SIMILAR.
 - INSTALL SWITCHES ON LOCK SIDE OF DOORS. CONFIRM LOCATION WITH ARCHITECTURAL DRAWINGS.
 - WHERE MORE THAN ONE SMOKE DETECTOR ALARM IS REQUIRED IN A UNIT, THEY SHALL BE WIRED SO THAT ACTIVATION OF ONE ALARM WILL CAUSE ALL ALARMS WITHIN THE SUITE TO SOUND.
 - ALL BEDROOM RECEPTACLES SHALL BE PROTECTED BY ARC FREE CIRCUIT BREAKER.
 - ALL FIRE ALARM HORNS WITH A SUITE SHALL BE WIRED TO AND CONTROLLED BY A SILENCE SWITCH AT FIRE ALARM PANEL AS PER LATEST O.B.C.
 - SUPPLY AND INSTALL MARKED TAMPERPROOF RECEPTACLES AS REQUIRED BY SECTION 26-712(g) OF THE ELECTRICAL CODE WITH EXCEPTION AS PER SECTION 26-712(h).



FIRE ALARM DEVICES	
☉	SMOKE DETECTOR
☑	FIRE ALARM HORN (CORRIDOR)
☑	FIRE ALARM HORN (SUITE)
☑	DUCT SMOKE DETECTOR
☉	HEAT DETECTOR
☑	FIRE ALARM PULL STATION
☒	ISOLATOR MODULE
DM	DUAL MONITOR MODULE
M	MONITOR MODULE

DEVICE	MANUFACTURER	MODEL
SMOKE DETECTOR	MIRCOM	MIX-2251B
DUCT SMOKE DETECTOR	MIRCOM	MIX-DH3000 SERIES
PULL STATIONS	MIRCOM	MS-401AD
MINI-HORN	MIRCOM	MH-S25WA
HORN/STROBE COMBO	MIRCOM	FHS-340W
ADDRESSABLE MODULES	MIRCOM	MIX-M500M/MIX-M500DM/MIX-500R
FIRE ALARM CONTROL PANEL	MIRCOM	FX-2017-12ADS C/W ALC-396S, RM-1008A, FOUR(4) SGM-1004A, TWO(2) RAX-1048TZDS

NO.	REVISION	DATE	BY	APPROVED
5	ISSUED FOR PERMIT	DEC 20	G.O.	G.V.W.O.
4	ISSUED FOR PRICING	DEC 13	G.O.	G.V.W.O.
3	ISSUED FOR PRICING AND ARCH. COORD.	OCT 28	G.O.	G.V.W.O.
2	ISSUED FOR COORDINATION	SEP 29	G.O.	G.V.W.O.
1	ISSUED FOR COORDINATION	SEP 16	G.O.	G.V.W.O.

496 TAUNTON ROAD EAST, OSHAWA, ONTARIO
PETER HOOGER

ELECTRICAL NOTES AND DETAILS

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SCALE: 3/16" = 1'
PROJECT NO. 115705
DRAWN BY: C.P.D. DRAWING NO. E8
DESIGN BY: C.P.D./G.V.W.O.
CHECKED BY: G.V.W.O. CAD FILE: 115705 E
DATE: DECEMBER 2016 PLOT DATE: 12/20/16
SUBMISSION: PERMIT

RP-1 PANEL
60 CIRCUIT, 200A, 120/208 VOLT, 3 PHASE, 4 W. SURFACE MOUNTED CIRCUIT
BREAKER PANEL BOARD WITH 200 AMPERE MAIN LUGS ONLY
* DENOTES BREAKER LOCK-ON DEVICE

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
FURNACE	15A	1	2	15A	UNIT LTS	
A/C UNIT	25A	3	4	15A	EM LTS (RED)	
		5	6	15A	EXTERIOR SIGN	
BB-1	15A	7	8	15A	RECEPTACLES	
EXTERIOR SIGN	15A	9	10	15A	HRV-3	
SPACE	-	11	12	-	SPACE	
SPACE	-	13	14	-	SPACE	
SPACE	-	15	16	-	SPACE	
SPACE	-	17	18	-	SPACE	
SPACE	-	19	20	-	SPACE	
SPACE	-	21	22	-	SPACE	
SPACE	-	23	24	-	SPACE	
SPACE	-	25	26	-	SPACE	
SPACE	-	27	28	-	SPACE	
SPACE	-	29	30	-	SPACE	
SPACE	-	31	32	-	SPACE	
SPACE	-	33	34	-	SPACE	
SPACE	-	35	36	-	SPACE	
SPACE	-	37	38	-	SPACE	
SPACE	-	39	40	-	SPACE	
SPACE	-	41	42	-	SPACE	
SPACE	-	43	44	-	SPACE	
SPACE	-	45	46	-	SPACE	
SPACE	-	47	48	-	SPACE	
SPACE	-	49	50	-	SPACE	
SPACE	-	51	52	-	SPACE	
SPACE	-	53	54	-	SPACE	
SPACE	-	55	56	-	SPACE	
SPACE	-	57	58	-	SPACE	
SPACE	-	59	60	-	SPACE	

RP-2 PANEL
60 CIRCUIT, 200A, 120/208 VOLT, 3 PHASE, 4 W. SURFACE MOUNTED CIRCUIT
BREAKER PANEL BOARD WITH 200 AMPERE MAIN LUGS ONLY
* DENOTES BREAKER LOCK-ON DEVICE

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
FURNACE	15A	1	2	15A	UNIT LTS	
A/C UNIT	50A	3	4	15A	EM LTS (RED)	
		5	6	15A	EXTERIOR SIGN	
BB-1	15A	7	8	15A	RECEPTACLES	
EXTERIOR SIGN	15A	9	10	15A	HRV-3	
SPACE	-	11	12	-	SPACE	
SPACE	-	13	14	-	SPACE	
SPACE	-	15	16	-	SPACE	
SPACE	-	17	18	-	SPACE	
SPACE	-	19	20	-	SPACE	
SPACE	-	21	22	-	SPACE	
SPACE	-	23	24	-	SPACE	
SPACE	-	25	26	-	SPACE	
SPACE	-	27	28	-	SPACE	
SPACE	-	29	30	-	SPACE	
SPACE	-	31	32	-	SPACE	
SPACE	-	33	34	-	SPACE	
SPACE	-	35	36	-	SPACE	
SPACE	-	37	38	-	SPACE	
SPACE	-	39	40	-	SPACE	
SPACE	-	41	42	-	SPACE	
SPACE	-	43	44	-	SPACE	
SPACE	-	45	46	-	SPACE	
SPACE	-	47	48	-	SPACE	
SPACE	-	49	50	-	SPACE	
SPACE	-	51	52	-	SPACE	
SPACE	-	53	54	-	SPACE	
SPACE	-	55	56	-	SPACE	
SPACE	-	57	58	-	SPACE	
SPACE	-	59	60	-	SPACE	

PANEL "HP"
80 CIRCUIT, 200A, 120/208 VOLT, 3 PHASE, 4 W. SURFACE MOUNTED CIRCUIT
BREAKER PANEL BOARD WITH 200 AMPERE MAIN LUGS ONLY
* DENOTES BREAKER LOCK-ON DEVICE

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
FACP (RED)	20A	1	2	15A	GAS / WATER ROOM REC	
		3	4	15A	STAIRWELL LTS	
SPARE	15A	5	6	15A	STAIRWELL LTS	
GAS / WATER ROOM LTS.	15A	7	8	15A	ENTRY PHONE	
FF-1 WATER METER RUN	15A	9	10	15A	LOBBY REC	
		11	12	15A	LOBBY LTS	
STAIRWELL REC	15A	13	14	15A	FF-1 STAIRWELL	
STAIRWELL REC	15A	15	16			
FF-3 STAIRWELL	15A	17	18	15A	BB-3	
		19	20			
EM LTS (RED)	15A	21	22	15A	BB-3	
		23	24			
BB-3	15A	25	26	15A	BB-3	
		27	28			
BB-3	15A	29	30	15A	BB-3	
		31	32			
BB-3	15A	33	34	15A	BB-3	
		35	36			
BB-2 MECH ROOM	15A	37	38	15A	ELEV REC	
		39	40	15A	ELEV LTS	
EXTERIOR LTS PANEL	30A	41	42	15A	BASEMENT EM LTS (RED)	
BASEMENT LTS	15A	43	44	15A	2ND FLOOR REC	
BASEMENT REC	15A	45	46	15A	2ND FLOOR EM LTS (RED)	
2ND FLOOR LTS	15A	47	48	15A	3RD FLOOR EM LTS (RED)	
3RD FLOOR REC	15A	49	50	15A	4TH FLOOR EM LTS (RED)	
3RD FLOOR LTS	15A	51	52	15A	4TH FLOOR REC	
BB-1	15A	53	54	15A	4TH FLOOR LTS	
BASEMENT HRV	15A	55	56	15A	FF-2	
		57	58			
ELEVATOR	80A	59	60	15A	ELECTRICAL ROOM RECEPTACLES	
		61	62	15A	ELECTRICAL ROOM LIGHTS	
ELEVATOR ROOM REC	15A	63	64			
		65	66	70A	MAU-1	
		67	68			
FF-2	15A	69	70			
CATV RECEPTACLE	15A	71	72	-	SPACE	
TELEPHONE RECEPTACLE	15A	73	74	-	SPACE	
SPACE	-	75	76	-	SPACE	
SPACE	-	77	78	-	SPACE	
SPACE	-	79	80	-	SPACE	

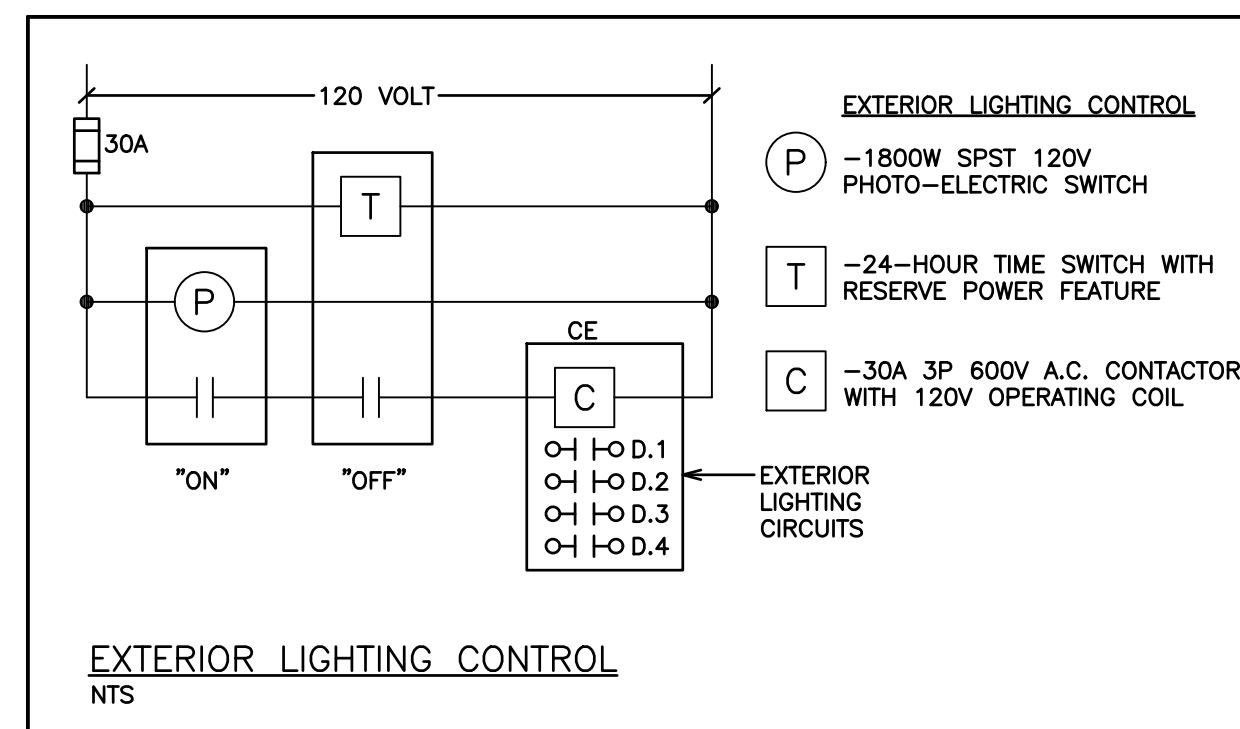
PANEL "LP"
EXTERIOR LIGHTING PANEL
24 CIRCUIT, 30A, 120/208V, RECESS MOUNTED CIRCUIT

DESCRIPTION	LOAD	BKR	CCT	CCT	BKR	LOAD	DESCRIPTION
POLE LIGHTING	-	15A	1	2	15A	-	POLE LIGHTING
EXTERIOR SIGN	-	15A	3	4	15A	-	BUILDING LIGHTING
.	-	.	5	6	.	-	.
.	-	.	7	8	.	-	.
.	-	.	9	10	.	-	.
.	-	.	11	12	.	-	.
.	-	.	13	14	.	-	.
.	-	.	15	16	.	-	.
.	-	.	17	18	.	-	.
.	-	.	19	20	.	-	.
.	-	.	21	22	.	-	.
.	-	.	23	24	.	-	.

TYPICAL SUITE PANEL "TP"
100 A, 120/208 V, 1 PH., 3 W. MAINS

#* INDICATES GFI BREAKER
#** PROVIDE BREAKER LOCKING DEVICES

DESCRIPTION	LOAD	BKR	CCT	CCT	BKR	LOAD	DESCRIPTION
WASHROOM RECEPTACLE	500W	*15A	1	2	15A	130W	BEDROOM LTS
BEDROOM LAMP PLUG	-	**15A	3	4	15A	244W	HALL/KITCHEN/LIVING LTS
BEDROOM RECEPTACLE	500W	**15A	5	6	15A	140W	WASHROOM LTS/EXHAUST
BEDROOM LAMP PLUG	500W	**15A	7	8	20A	1500W	
BEDROOM RECEPTACLE	500W	15A	9	10			
LIVING RM. RECEPTACLE	-	15A	11	12	40A	6KW	STOVE
KITCHEN GFI RECEPTACLE	-	*20A	13	14			
KITCHEN GFI RECEPTACLE	-	*20A	15	16	15A	3000w	MP-1
FRIDGE	550W	15A	17	18	15A	-	SPARE
DRYER	-	30A	19	20	15A	-	SMOKE ALARM
			21	22	15A	-	COMMUNICATIONS REC.
HALLWAY RECEPTACLES	-	15A	23	24	15A	-	DISHWASHER
HWT-1	-	20A	25	26	15A	-	RANGE HOOD
			27	28	15A	-	DRYER BOOSTER
SPACE	-	.	29	30	.	-	SPACE
SPACE	-	.	31	32	.	-	SPACE
SPACE	-	.	33	34	.	-	SPACE
SPACE	-	.	35	36	.	-	SPACE
SPACE	-	.	37	38	.	-	SPACE
SPACE	-	.	39	40	.	-	SPACE
SPACE	-	.	41	42	.	-	SPACE



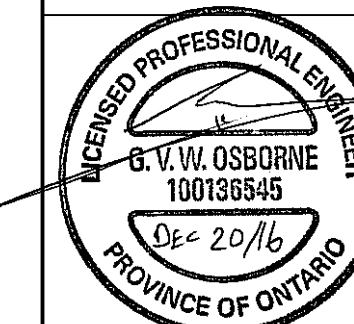
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REVISIONS
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PETER HOOGER

ELECTRICAL PANEL SCHEDULES

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SCALE:	PROJECT NO.
3/16" = 1'	115705
DRAWN BY:	DRAWING NO.
C.P.D.	E9
DESIGN BY:	CHECKED BY:
C.P.D./G.V.W.O.	G.V.W.O.
DATE:	PLOT DATE:
DECEMBER 2016	12/20/16